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Outsourcing Our Memory 2.0: Using Walter Ong's Orality/Literacy Studies to Recognize Technologies Effects on Memory

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OUTSOURCING OUR MEMORY 2.0: USING WALTER ONG'S ORALITY/LITERACY STUDIES TO RECOGNIZE TECHNOLOGIES EFFECTS ON MEMORY

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ABSTRACT

OUTSOURCING OUR MEMORY 2.0: USING WALTER ONG'S ORALITY/LITERACY STUDIES TO RECOGNIZE TECHNOLOGIES EFFECTS ON MEMORY

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Dissertation supervised by Richard Thames, Ph. D.

At the heart of media ecology is the principle that technology not only deeply influences society, but also controls most aspects of daily life. Additionally, media ecology investigates how media and communication processes profoundly affect human perception and understanding. The pervasive role that technology plays in modern life today has exacerbated the results of technology on human beings. Some of these outcomes are not desirable and may be a hindrance to the progress of our society. This dissertation takes particular interest in the multifaceted consequences that the overuse of technology imposes on our ability to fully utilize our memory.

In his life and work, The Reverend Father Walter Jackson Ong (1912-2003) recognized the vital role that rhetoric plays in human communication. In Ong's seminal text, *Orality and Literacy*, he identified the significance that communicative

shifts have on the way we receive information and create knowledge. Being an astute polymath, Ong's multidisciplinary approach to communication opens avenues to the topic of technology and memory that align quite well with the media ecology tradition. Ong gives us hope of how to survive and adapt to the complex media environment that has atrophied our ability to grow and fully develop our memory in a post-electronic age.

This dissertation is dedicated to my Mother and Father for their unwavering support, my Sister for being a role model, my Grandmother for her endless wisdom, and Kate for her unmatched faith in me.

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> The implications of the new discoveries [technologies] have been startling. Many of the features we have taken for granted in thought and expression in literature, philosophy, and science, and even in oral discourse among literates, are not directly native to human existence as such, but have come into being because of the resources which the technology of writing makes available to human consciousness. We have led to revise our understanding of human identity (Ong, 1).

Media ecology emerged out of the unprecedented shifts in technology and communication that characterize the 20th century. These shifts center on an epochal change in the status, organization and application of knowledge, as well as changes in the complex communication systems through which we interact. A consequence of these shifts in knowledge and communication is a movement away from the rigidly compartmentalized, inept specialization in the scientific inquiry that portrayed the Newtonian world, and a movement toward the amalgamation of both the physical and social sciences (Nystrom, 1973). Therefore, "compound" disciplines emerged such as mathematical biochemistry, psychobiology, linguistic anthropology, and ethnomusicology. Additionally, this has caused the emergence of new fields of study that are so broad in their scope that many do not fall under one discipline, moving perhaps toward the creation of metadisciplines. Born out of the

proliferation of these disciplines is media ecology. This newly recognized specialty is broadly defined as the study of multifarious communication systems as environments (Postman, "What is Media Ecology").

In his life and work, Reverend Father Walter Jackson Ong (1912-2003) embodied the multidisciplinary nature of media ecology. Ong recognized the profound impact that the shift from an oral to literate culture has had on human consciousness. He approaches the topic through an integrative lens by exploring the rhetorical, philosophical, historical, and literary implications in the seminal text, *Orality and Literacy*. Ong's approach provides much needed assistance in order to navigate through the aforementioned shifts in communication by turning to Rhetoric. Rhetoric is the glue that holds much of his work together because it is living, breathing, and presupposes human engagement (Weeks 24).

The 20th century media saturated world proposes a formidable threat to the foundation of human communication. The threat in part, is due to the requirement of memory in order for effective communication to exist. Memory plays a vital role in the creation of meaning, as well as our ability to recall events, words, feelings, build relationships, and adapt from previous experiences. It is the "store" of all things learned and retained from our activities or experiences, as evidenced by modification of structure or behavior, or by recall and recognition. The pervasiveness of our current technologically dominant environment calls for a meticulous, multidisciplinary evaluation of the unintended (or sometimes intended) consequences that result from our constant use of these technologies.

The proposed dissertation details the importance of Walter Ong's orality/literacy studies for understanding and navigating through our current technological environment, emphasizing its atrophying effects on our ability to fully develop and utilize our memory. *The proposed relationship between our current technological surroundings and memory can be understood with more clarity by expanding Ong's orality/literacy studies through the work of Jacques Ellul, Sherry Turkle, and others, where we are not just dependent on a literate culture to communicate, but we are dependent on the technological processes of the electronic age that are changing the ways in which our brain traditionally functions* (in terms of both functionality and consciousness). *Memoria* in Western classical rhetoric grew out of oratory, which was the central medium for intellectual, social, and political life in ancient Greece. The connection between *memoria* and orality is an important connection that needs to be revived in our postmodern, technologically centered society.

The Spirit of Ong

This project is of particular importance to the field of communication because Ong's insights on communicative shifts in human culture and consciousness (primary oral cultures to craft literacy to literate cultures, etc.) are needed in order to navigate through a postmodern, technologically "superior" culture, a culture in which we have outsourced our memory to a digital means. The phrase "outsourcing our memory" refers to our reliance on digital processes to "store" information that traditionally was meant to be stored "in-house," or in our own consciousness. For

example, calculators have caused our simple arithmetic skills to atrophy in similar ways that modern technologies have caused our memories to atrophy.

Information was traditionally memorized through repeated use, passed down through traditions, or discussed. Proper use and synthesis of information can ultimately turn into knowledge and wisdom through practice and critical thought. Information devoid of critical thinking is meaningless. One must practice thinking about implications of ideas, thoughts, and other pieces of information in order to obtain a degree of knowledge and wisdom. Today, information is stored in databases using complex algorithms created by programmers. For example, the popularization of analytics, which neatly organizes big data into digestible information about digital audiences, uses complex algorithms to gather desired information (i.e. apriori, kNN, C4.5, and others). These databases render our memories useless, since this information is available at all times and easily accessed without one having to use their own consciousness. Additionally, Ong's phenomenological thought (he is reluctant to use the term "theory") is different from many postmodern projects because he unites his work with a tradition that helped influence in the West.

Ong's framework for understanding the various shifts from oral to literate to electronic cultures is important not only because it provides historical perspective about ways information is obtained, processed, and communicated, but also because it is uniquely useful in the contemporary postmodern historical moment. In essence, Ong varies from other postmodern thinkers because he avoids modern conceptions of communication by using the past to understand the wide-ranging

impacts of technology in all areas of life. Ultimately, a comprehensive understanding of Ong's orality and literacy studies will be established in order to reveal how memory is a vital component of what makes us human and needs to be preserved in our current culture.

This dissertation is written in the methodological spirit of Ong. At the core of Ong's thought is a theory of interpretation that embraces historicity and rhetoric as a tool to understand current cultural shifts in how we communicate and acquire knowledge. Knowledge acquisition has changed over time: knowledge from oral exchange, written exchange, and now digital exchange. However, digital mediums make it very hard to gain knowledge because so much information is thrown at us. Again, information is useless without proper contemplation and thought. Ong sees something valuable in the orality of language, which is the basis of human existence as well as what differentiates us from other animals. In this sense, the dissertation will be etymological in its approach to exploring and applying Ong's orality and literacy studies.

Sonic and physical orientations to the body, mnemonic devices, repetition, aggregation rather than analysis, and memory are all aspects of orality that Ong identifies as important. A deeper analysis will reveal that these aspects are lost, forgotten, or ignored in technological society, which has detrimental effects on our ability to fully utilize our memory. Consequently, this dissertation does not seek to deny the validity of others' work, but to add to the conversation in media ecology, and extrapolate some under-developed insights of Ong.

The unique role of Ong's orality and literacy studies within the field of communication is outlined in the **first chapter**, titled "Orality and Literacy Theory." Various contributors to the area of study are explored to show how Ong's theory is unique, as well as helpful in navigating in a post-electronic culture. His perspective regarding orality and literacy is unique because he revisits the characteristics of orality with historical care uncommon to a world that in many ways neglects their importance. This chapter will also carefully address the virtuosity of memory and the unique perspective that aligns magically with Ong's orality and literacy scholarships.

Orality and literacy studies are quite complex, spanning all historical moments. Other aspects of Ong's theory must be developed in order to successfully apply them to today's current context. As a result, the **second chapter**, titled "The Quantification of Thought," will thoroughly explore the major implications of Ong's orality and literacy theory and how it reveals an incremental move towards a technological culture. Several of Ong's works will be used, including *Orality and Literacy*: *The Technologizing of the Word; The Presence of the Word; Ramus, Method, and the Decay of Dialogue;* and *Rhetoric, Romance, and Technology*. Without understanding the inherent importance of the word as Ong does, it would not be clear as to why orality needs to have more of a presence today. Secondary orality, oral residue, psychodynamics of orality, the orality of language, and restructuring our consciousness are all concepts of Ong's that will be addressed here.

The **third chapter**, "Our Mind Under the Influence," explores the effects of the "post-electronic culture" on our consciousness, acquisition of knowledge, and

memory. This section is integral to the project, because it provides a description of the conditions that allow us to rely less on our memory and more on technologies. This section will use the same historicity approach that Ong uses, in order to evaluate the current culture and how it affects our consciousness and ultimately our memory.

The unpacking of orality and literacy studies, how changes in the way we communicate change the way we think and acquire knowledge, and an evaluation of the current technological environment and its effects on our consciousness prepares us for the **final chapter**, "Reorganization and Reclamation of Memory." This chapter will extend Ong's conceptions into the 21st century. Here, I will describe how modern technologies have the capability to reorganize our memory, similar to how the introduction of writing restructured them. Many of the assertions Ong makes in his works are applicable in the post-electronic age through which we are currently navigating, and are essential to maintain the balance between technology and human-ness.

In the "Conclusion," the dissertation develops and expands Ong's analysis of orality and literacy studies into the 21st century. The history of orality and literacy studies provide much needed perspective to the ongoing struggle between technological progress and human communication. I have chosen three rhetorically based conceptions that are posited by Ong that aid in the reclamation process: apprenticeship, participation, and *memoria*. In doing so, we will have a more comprehensive understanding of how to adapt to the constant flux between oral,

visual, literate, electronic, and post-electronic spaces that directly influence how we make sense of the world.

The lessons that come out of orality and literacy studies are important, because these lessons function as an alternative to the Western notions of scientific communication and quantification of thought, as well as other postmodern responses to knowledge acquisition. Ong and other media ecologists critique these approaches throughout their works in orality and literacy studies. For example, Marshall McLuhan states in *The Global Village* that "all western scientific models of communication are linear, sequential, and logical" (McLuhan 77). Additionally, in *The Barbarian Within*, Ong notes that "medieval scholastic thought appears as a kind of pre-mathematic, a subtle and unwitting preparation for the large-scale operations in quantitative modes of thinking that will characterize the modern world" (Ong 90). Linear, sequential, and quantitative kinds of thought are problematic for media ecologists, which makes it a task of this dissertation to expand into today's technologically "superior" world. Through the media ecology tradition, an infusion of rhetoric into the mechanistic culture of today will bring life back into the discussion.

Chapter 1

Orality and Literacy Theory

The work of the Reverend Father Walter Jackson Ong (1912 – 2003) is rooted in exploring how the transition from orality to literacy impacted culture and changed human consciousness. While he is widely regarded in the field of rhetoric, phenomenology, and philosophy, Ong's communicative inquiries have immense application to the field of media ecology and beyond. His roots in the field are deep, beginning during his master's thesis, which was supervised by Marshall McLuhan, and continued with his lengthy dissertation on the sixteenth century French philosopher and educator Peter Ramus. His thought, at its best, is rhetorically complex, historically deep, philosophically profound, and provides the proper framework to help navigate through the postmodern technological society for guidance and illumination.

The relevance of Ong's thought in the contemporary historical moment is required as we are ushered into a "post-electronic" age, so that we can understand what is at stake as a result of our reliance on technologically mediated forms of communication. Media ecology can be broadly viewed as the study of media environments. It is the idea that technology and techniques, modes of information and codes of communication play a leading role in human affairs and our chances of survival today (Media Ecology Association, 2008).

The justification for the continued study of Walter Ong within the media ecology tradition and communication studies is outlined in the section "Continuing

Importance of Ong's Work." A summary of his earlier works and the scholars who influenced his intellectual thought is articulated in the section "Ong's Inquiries and Influences." Orality/literacy and the role of memory are placed within Ong's oeuvre in the section "Ong on Orality, and Literacy." The section "Memory in a Post-Electronic Age" discusses the outcomes of the shift from a literate to an electronic culture, the potential challenges that one faces as a result of this shift, and a preliminary analysis using Ong's insights to recognize the scope of these challenges.

"Memory in a Post-Electronic Age" will address issues that come along with a progressive, technologically oriented society, and how Ong suggests memory can be preserved. Ong portrays "memory" as integral to human development through the oral tradition, thus making it a sacred and prized characteristic. There is "power in memory," as in an ability to not only remember but to remember a great deal of material. According to Ong, literacy "was an intrusion" to the mind and memory (Ong, 188). Similarly, technology is an intrusion to the mind and memory.

The task of this section is to provide a thorough introduction to Ong's system of ideas, in order to create a foundation for navigating through our current media ecological environment. The primary focus will be the maturity of Ong's thought, as well as various tangential scholars who have influenced his viewpoint. Additionally, the chapter establishes a basis for understanding the place of Ong's thought in communication studies and media ecology. Ong's position will reveal how orality has "preservative effects" on our memory whose power has declined in a culture that has outsourced memory to digital storage. The art of memory, an integral conception for this project, will be revealed as an art that needs to be practiced lest

it atrophy. The chapter will function as a conceptual introduction to the ideas in chapters to come, and make a case for the extension of Ong's thoughts to the current culture.

Continuing Importance of Ong's Work

Ong's theoretical contributions have had a wide impact in rhetoric, literary criticism, communication, sociology, theology, philosophy, and many other areas of study. As a result of this diverse influence, it can be argued that he is one of the most significant intellectuals of the twentieth century. His well roundedness has often placed him in a category of his own. Lance Strate, a media ecologist and student of Neil Postman, praises him as a "master of noetics, of knowledge and our ways of knowing" (Strate ix). His approach deviates from contemporary academics who seek the confines of specialized niches in order to claim "expertise" in a particular field. Conversely, Ong is "a free-ranging polymath whose expertise encompasses expertise itself" (Strate ix). Most importantly, his ideas have continued relevance, particularly in today's technological society where the way in which we communicate has been transformed.

In the field of communication, Ong's work has been utilized by exploring modes of communication that human beings use, which are also the means and methods through which we gain *knowledge.* His work suggests that our ways of knowing *about* the world are connected with the *kind* of world in which we find ourselves (Farrell 61). Differences in our methods of communication are important for Ong, as they indicate the *kind* of world we live in and how we engage with one another.

In order to properly understand this dynamic, Ong studied the dialectics between various schisms: acoustical and visual, orality and literacy, memory and written documentation, as well as electronic communication. Each of these "explorations" led Ong to his most important discovery: the fundamental form of human communication and the foundation of knowledge is *the word* (Strate, *Echoes* 2002). Ong's interest with "the word" is evident through his two major intellectual endeavors, *Presence of The Word* and *Orality and Literacy: The Technologizing of the Word*. This concept— "the word"—is expounded in *Rhetoric, Romance, and Technology* (1971) and *Interfaces of the Word* (1977). Words are what make us distinctly human and differentiate us from any other animal (an Aristotelian undertone, our being as "animals with *logos*" for Aristotle). In a technological society, the word loses much of its integrity and is replaced with technical processes or more "efficient" methods of communication (the metaphors "efficiency" and "technique" will be explored in later sections). There are consequences when one mode or medium of communication loses its relevancy and is replaced, and what is lost is often not considered when the new medium is introduced. Revisiting what is lost will reveal that memory is one of those causalities.

Ong, alongside Marshall McLuhan and Eric Havelock, is often viewed a founding scholar in the sub-field of media ecology. His *Orality and Literacy* and McLuhan's *Understanding Media* are two of the most frequently cited works in media ecology literature. Ironically, interest in their works peaked after their deaths and before the rise of the electronic/digital age. However, each (in varying ways) predicted the increase in the use of and reliance upon technologies long

before the current technologies were invented, and provided valuable analysis that helps ground us today.

For Ong, the prediction was a shift away from a literate culture and a move towards what he calls "secondary orality," described as "essentially a more deliberate and self-conscious orality, based permanently on the use of writing and print" (Ong 136). Secondary orality is a kind of orality that is reliant on a literate culture and the existence of writing, such as a television anchor reading the news or radio. While it exists in sound, it does not have the features of "primary orality" because it presumes and rests upon literate thought and expression (such as people reading written material). This dissertation will be written in the spirit of the media ecology tradition, to widen the scope of the field in a newly technologically saturated environment. The field has allowed a revitalization of Ong's work in the last two decades. There is a need to expand his ideas even further to help cope with the complex technological advancements.

Furthermore, the goal of this dissertation is to extend and develop Ong's orality and literacy studies. To do this, we must consider how the utilization of memory changes from oral, literate, and digital cultures, how these shifts in the way we communicate force us to rely on and use memory less, and how the diminished use of memory affects our memory and beyond. Ong's contributions to media ecology through orality and literacy studies have been explored, but the use of his work has not been fully developed and applied to our current technological environment.

Additionally, there has been very little scholarship produced that directly addresses the shifts from oral to literate to electronic cultures, and the effect these shifts have on memory. Ong (and those who have written about Ong) has touched upon memory in a few works; however, there is a wealth of research to be done to reveal why memory is critical today and to deepen our understanding of Ong. In his landmark text *Orality and Literacy*, he does not make a case for orality *or* literacy; rather he outlines the changes that occurred in the way we communicate and store information as a result of each shift. In later writings he began to explore how literacy negatively affected the way we recall information and increased our dependence on external sources to do so (Ong 94). Extending these insights will reveal the atrophying effects that technology today can have on our memory, as well as possible ways to abstain from its stifling qualities.

It might be helpful to revisit an earlier section for clarity here. The "atrophying effects" mentioned in the previous paragraph works under the assumption that memory is like a muscle: it needs to be exercised, practiced, and developed in order reach its full potential. Technology (similar to when the written word became a widely accepted practice) poses a threat on our ability to exercise memory, since there are now shortcuts around having to fully develop the art.

Media ecologist Eric Havelock's seminal text, *Preface to Plato*, provides groundwork that adds to the discussion on orality, literacy, and memory. Havelock is specifically concerned with Greek epic poetry and Plato's assault on it. He writes about *paideia* as it existed before and after Plato, the technological issues of communication, and the surfacing of Plato's doctrine of "forms" in the cultural

setting. Havelock argues that Plato attacks Greek poetry because it is integral to the orientation he opposes. To understand his argument, we perceive poetry as what it was in Plato's era. Havelock's theory of forms emerges as a vindication of a new way of thinking, or abstract philosophy (Havelock 287). Havelock's argument is significant because Greek society was shifting from a state of craft literacy, where only the educated few practiced writing, to a stage of general literacy (Ong, 1964). The result of the progression to general literacy amongst the masses not only increased the number of people who could read and write, but also created a radical shift in the storage of knowledge, consequently changing how people perceived their life-world. But Literacy was taught later in life— after puberty —than it is today, significantly affecting the brain's "hard-wiring." For example, if a person has not acquired language by puberty, there are severe limits on how much can ever be acquired thereafter. Greeks' memories were different from those of later literate cultures, their memories having been exercised in what was for them an essentially oral culture until puberty. The point being that memory was developed in a much different manner in Greece. Here, Havelock provides for a more fruitful discussion of memory. When combined with Ong's position on oral and literate cultures, both scholars' ideas can be revived in a digital age. Again, it is imperative to revisit and re-apply Havelock and Ong's theories in lieu of recent digital "progress."

As scholars like Jacques Ellul illustrate, progress for the sake of progress can be dangerous and there are causalities. *My assertion is that memory as used in oral and literate cultures is one of the casualties.* There is value in keeping intact memory as exercised in primarily oral cultures, and even more so in a culture that values

technological progress, efficiency, and innovation as we do today. Our perception of "progress" today relies heavily on making everyday tasks simpler and more efficient. As a result of this efficiency paradigm, we "forget" the attributes that make us human (dialogue, conversation, orality, etc.) Why would we want to use our memory when we can have a machine remember for us?

There has not been a comprehensive synthesis between memory and media ecology. As Lance Strate says, there is still much work to be done to carry forward Ong's ideas to survive in today's "Technopoly" (Strate 15). Ong's orality and literacy studies can be resurrected as a form of interpretation to apply to our world today. Ong argues that print societies epistemologically emphasize the visual and tactile, whereas oral societies highlight the oral and aural structure (Ong 129). Media ecologists articulate that electric technologies restore the oral/aural as well as the visual/tactile. Given this finding, we must rediscover orality and literacy studies interpretively (hermeneutically and phenomenologically) to properly understand how technology reorganizes our culture as well as the way we think in the 21st century. This approach has a newfound importance in a society that is, in many ways, based on technical processes and our ability to utilize these processes properly. As a result, Ong's work is applicable today to help realize these unintended (or at times intended) consequences from technological "progress." One of those "causalities" is our inability to use our memory in ways we were able to in the past. The major question that arises out of this assertion is why. Why did the dynamics of an oral culture lend themselves to the preservation of our memory?

The Art of Memory and the Body

In Western classical rhetoric (the classical Greco-Roman antiquity), the art of memory, often referred to in Greece as *memoria*, was the discipline of recalling the arguments of a discourse. In the classical era, it generally received less attention from writers than other parts of rhetoric since there was less to be said about the subject. Memory had relatively basic characteristics tied to recounting information and passing information to others (Weeks 12). The complexity of literacy and writing were not yet engrained into our lifestyle or influenced our memory. However, the need to memorize speeches did transform the structure of discourse to some extent, as items were rationally related in order to learn and develop arguments. For example, as part of *dispositio* (the system used to organize arguments), some attention was paid to creating structures (such as the *divisio*, an outline of the major arguments of a discourse) that would aid memory (Weeks 14).

Rhetoricians also viewed *memoria* as requiring more than just plain memorization. The orator had to possess a wide body of knowledge to allow for improvisation in order to respond quickly to questions and refute opposing arguments. Therefore, knowledge played an important role in the success of an orator, and is inextricably tied to how memory was sustained and developed. Similarly, memory, the fourth canon of rhetoric, arrangement, the second canon of rhetoric, and invention (*inventio*), the first canon, are strongly connected. The *Rhetrica ad Herennium* states that memory is the "treasury of things invented", indirectly referring to the custom of accumulating commonplaces and knowledge.

Hence, for a rhetor, memory is as much related to the need to extemporize as it is to the necessity to memorize a discourse for delivery.

Jeffrey Walker provides some synthesis to the discussion on *memoria*. In his landmark text *Rhetoric and Poetics in Antiquity*, he traces the evolution of rhetoric. One common explanation of this evolution is through politics and law. When the tyrannical rule was overthrown in Sicily, there were court-cases involving property theft in which people were required to represent themselves. Consequently, common folk would learn rhetoric in order to be successful in the court battles. However, Walker arrives at a slightly different conclusion than the commonly understood paradigm regarding the development of rhetoric. He states that what came to be called "rhetoric" was not an art of practical civil oratory, rather it originated from the development of the poetic/epideictic field: "from song to speech to discourse" (Walker 84). He asserts that rhetoric was present from the beginning; it was not formalized first through law.

The epic poetry and song of the time had rhetorical intent which makes the two inseparable. Poetry was also connected with knowledge acquisition during antiquity. Poetry was tied to memory for the reason that it created devices to remember through meter, timing, and rhyme. Poetry developed into a memory device. It was through poetry that the great treasures of cultural value were safeguarded and passed on to later generations.

Ancient times were characterized by a society in which oral performance was the main method of recall. Oral performance, such as epic poetry, utilized set themes and formulaic modes of expression adaptable to metric patterns. A poet's

role in society was not just to entertain or recall, but also to preserve the accumulated wisdom of the culture (Farrell and Soukup 18). Havelock articulates further that the content of tradition becomes integral in order to foster and implement memory. Therefore, the "genius" of the epic poet lies not in creativity, rather in the skill to foster a culture's wisdom (Havelock, 1963 page?). Havelock touches base with an essential discovery in regards to memory and poetry: traditionalism, not creativity or originality, makes the poet at the center of cultural power. It is the poet that helps foster, remember, and spread cultural values and wisdom amongst society. For example, the value of Homer as a poet had more to do with him as a great accumulator of knowledge, performing at a time when knowledge could not be encoded in an abstract form (Farrell and Soukup 22).

Memory was once viewed as the "art preservative of all arts (*ars atrium omnium conservatrix*). " The memory of individuals and groups of people carried wisdom through time and space. Daniel Boorstin articulates the importance that memory once had: "for millennia personal Memory reigned over entertainment and information, over the perpetuation and perfection of crafts, the practice of commerce, the conduct of professions…By Memory and in Memory the fruits of education were garnered, preserved, and stored" (Boorstin 43).

Before the advent of the printing press, memory ruled everyday life, preserved tradition, and prompted human communication. Memory was an ability that everyone had to nurture, in ways that now have been long forgotten. The Ancient Greeks gave mythic form to this art that regulated their lives: The Goddess of Memory (Mnemosyne). Memory was a talent that needed to be cultivated, similar

to other art forms of the time. The skill of memory could be perfected through training. Only recently has "memory training" been ridiculed and been viewed as unimportant. According to Boorstin over the last five hundred years or so, "we only see pitiful relics of the empire and the power of Memory" (Boorstin 479).

The traditional arts of memory flourished in Europe over the years. Greek lyric poet, Simonides of Ceos, is often named the inventor of the mnemonic art. He was known for his remarkable memory and ability to recall situations that others could not. The origins of his art were described in Daniel Boortsin's *The Discoverers*, oratory by Cicero, who himself was renowned for his mnemonic skill. Boorstin accounts Simonides mnemonic origins:

> Once at a banquet in the house of Scopas in Thessaly, Simonides was hired to chant a lyric in honor of his host. But only half of Simonides' poem was in praise of Scopas, as he devoted the other half to the divine twins Castor and Pollux. The angry Scopas therefore would pay only half the agreed sum…. While the many guests were still at the banquet table a message was brought to Simonides that there were two young men at the door who wanted him to come outside. …The mysterious callers were, of course, Castor and Pollux, who had found their way to pay Simonides for their share of the panegyric. For at the very moment when Simonides had left the banquet hall the roof fell in, burying all the others guests in ruins…Simonides exercised his remarkable memory to show the grieving relatives which bodies belonged to whom. (Boorstin 481)

It was this scenario that suggested to Simonides the traditional form of the art of memory that he invented. Even Cicero credited him of this finding, and included memory as one of the five principal parts of rhetoric. Cicero stated that Simonides inferred that people who were training their mnemonic faculty must "select places and form mental images of the things they wish to remember and store those images in the places" (Cicero, *De Oratore* lxxxvi).

Simonides' art of memory dominated European thinking in the Middle Ages. It was based on two concepts: places (*loci*) and images (*imagines*). It was these concepts that provided the lasting elements of memory techniques for philosophers, rhetoricians, scientists, as well as everyday life. Laws were preserved by memory before they were preserved in documents. The "collective memory" of the community was considered to be the first legal archive. Similarly, English common law was "immemorial" meaning a "time whereof the memory of man runneth not to the contrary" (Boorstin 347). Ritual and liturgy were maintained by memory where priests were the gatekeepers. Religious services were repeated over and over to so they would resonate with the youth of the congregation. Additionally, music was used as mnemonic devices before verses and religious words were stored via text.

However, medieval scholastic philosophers were unsatisfied that memory was perceived as merely a practical skill, so they changed memory from a skill to a virtue (part of the virtue of Prudence). After the 12th century, the scholastics were less interested with the technology of writing and print than with the morality of memory and how it could encourage the Christian life (Boorstin 216). Medieval scholastic Saint Thomas Aquinas (1225-1274) exemplifies memory as a virtue.

While in Cologne, Albertus Magnus helped Aquinas train his memory in a variety of ways. For example, many of his trips to monasteries were recorded not from what was copied, but from what he has seen from the church's fathers. In his landmark text *Summa Theologiae*, Aquinas develops Cicero's meaning of memory as part of the virtue of Prudence, and presented his own rules for perfecting memory (Boorstin 224). It was not until the advent of the printed book that these Thomist rules of memory existed as the paradigm.

The classical notion of *memoria* (the orator's *possessing* a wide knowledge base) has been lost. Electronic dependency has left our memories to atrophy and waste away, or even be underdeveloped to begin with. According to Ong, this began with the introduction of mass literacy and writing, and continued with the permeation of an electronic culture. Today, memory is fostered and developed through electronic proficiency rather than knowledge. Electronic proficiency refers to the ways we become oriented with the world (through technology rather than human communication). The result of electronic dependency is the primacy of information over knowledge (knowledge being understood in the classical sense as possessing a familiarity, awareness or understanding of someone or something which is acquired through experience, education, or discovery). Over time, the perception of memory has moved from a skill, to a virtue, to a capacity (today's paradigm of memory), where the more information we can store determines how "good" or "bad" our memory is. In a sense, today we view memory as a hard drive which takes the focus away on fully developing our memory, and more on storage.

A major role of this dissertation will be to reclaim much of what gets sacrificed (memory) as a result of the inundation of electronic media. In keeping with Ong's roots, the reclamation can be accomplished through rhetoric. In *Orality and Litercy*, Ong discusses the canons of rhetoric: invention, style, arrangement, delivery, and memory. According to Ong, each one of these canons remains intact when language and orality are the ruling mode of communication (Ong 204). Extending Ong's insight to today, the canons become fragmented with the written word as well as electronic media.

The written word and electronic media share many of the same characteristics, which make the application of Ong's work on the written word to electronic media an easy transition. Using external mechanisms to "remember" for us, and relying heavily on those mediums to possess information we need to create knowledge, sacrifices one of the most important characteristics of humans, our memory. Rhetoric, as exemplified through the canons, are living and breathing in the sense that they require humans to do the work. This distinction is an important one: if we look at memory in a "use it or lose it" capacity (like a muscle), then if we fail to use it, memory atrophies. Therefore, to "use" memory is to develop it, train it, and practice it. The art of memory is the process by which we develop our memory to the greatest extent. Developing and training our memory is a rhetorical process that is affected by the environment that we inhabit and will change depending on that environment (oral culture vs. electronic culture). By extending Ong's work in this subject area through the work of other media ecologists like Ellul, Turkle, and

Havelock, the reclamation of the art of *memoria*, in the classical sense, is a possibility and a necessity.

Why is memory necessary if technology can remember for us? That is the central question that arises from the previous discussion on the art of memory. Technology changes the way we live our daily lives, the way we learn, and the way we use our faculties of attention, altering and in some cases impairing its function. Nicolas Carr, modern day media ecologist and author of *The Shallows*, writes "The depth of our intelligence hinges on our ability to transfer information from working memory, the scratch pad of consciousness, to long-term memory, the mind's filing system.

When facts and experiences enter our long-term memory, we are able to weave them into the "complex ideas that give richness to our thought" (Carr 56). The "richness" in our thought that Carr describes is what atrophies when overexposed to technologies. In a technologically driven society where we rely heavily on external mechanisms to recall information for us, we are unable to develop our long-term memory in a meaningful way. Therefore we cannot convert short-term memories into multifaceted ideas because we are no longer relying on ourselves to recall them or create them, rather technologies are designed to do this for us.

Carr expounds even further, stating that our long-term memory has a nearly unlimited capacity, whereas our short-term memory is limited in what it can store. In an interview about his book *The Shallows*, Carr states, "a break in our attention can sweep its contents from our mind." Our short-term memory is very fragile and

can only intake so much information at a time. Information overload makes it much harder to retain information. Erik Fransén, computer science professor at Sweden's KTH Royal Institute of Technology, says even a single session of Internet usage can make it more difficult to file away information in your memory.

Additionally, Tony Schwartz, productivity expert and author of *The Way We're Working Isn't Working*, says that most of us aren't able to effectively manage the overload of information we're constantly bombarded with (Schwartz 80). He compares our short-term memory to pouring water into a glass all day: whatever was at the top of the cup has to spill out in order to let new water in, therefore losing a large majority of information and replacing it with new information. It is very hard for people to "metabolize" and make sense of the constant influx of information, making it impossible to create meaning out of these facts and experiences since our memory is not conditioned to do so.

Remembering is, historically, a social process — we remember certain things and share those things with others, and in turn rely on others to fill us in on the things we've forgotten. To a certain extent, we delegate mental tasks like remembering facts to others in our social group, but now the Internet can do that job for us. There is something to be said about this technological development, but we often ignore what is lost as a result.

Returning to the original question of why memory is necessary when technology can remember for us; if we are unable to weave our short-term memories into long-term ones, we lack the depth in thought that humans have become accustomed to. Carr emphasizes that our intelligence level hinges on our

ability to transfer information from our working memory (short-term) to our "mind's filing system" (long-term). If our short-term memory is replaced then we are not developing our memory in any significant way and therefore allowing one of the most human characteristics to waste away. Additionally, there is a social component to memory forcing us to interact and communicate with others in order to create these short-term experiences and give meaning to the facts we accumulate. The term that Ong and Carr both use in their works is the idea of a collective memory, or a shared pool of knowledge and information in the memories of two or more members of a social group (Carr, "Is Google Making Us Stupid"). By replacing this step we are replacing a vital form of human communication. Therefore, memory is necessary because we are unable to create meaningful thought without the transference of short-term memories into long-term ones.

Ong's Inquiries and Influences

The purpose of this section is to trace Ong's intellectual genealogy through those who influenced him and his work, as well as the major ideas that arose through his explorations. This study will allow for a more in depth discussion on orality and literacy in the next section. Ong's methodology throughout his lifespan provides a framework for how to approach the introduction of new communicative agents into cultures and their multifaceted effects. Keep in mind that many of his early ideas foreshadowed the work he did later in his life.

Sprung Rhythm and Ramus

Religion and education shaped the character of Walter Ong. After attending Rockhurst College (a Jesuit institution), he entered the Jesuit order in 1935. This training, which he described as an arduous task, required a number of years to complete and devoted a large portion of the time to academic studies. During this period, Ong earned 3 degrees from Saint Louis University: a Master's in English (1941), a licentiate degree in philosophy (1941), and a licentiate degree in theology (1948). A licentiate degree is roughly equivalent to a master's degree. While at Saint Louis University, Ong was a pupil of Marshall McLuhan. McLuhan was teaching there while finishing his doctoral dissertation at Harvard. Ong has noted the influence of McLuhan on many occasions, and followed in his path when he began his doctoral studies at Harvard in the fall of 1948 (Farrell 6). Similarly, McLuhan notes that if it were not for the early work by Ong in his master's thesis and dissertation, his famous work *The Gutenberg Galaxy* would not have been written.

Ong's early academic works foreshadow his more developed ideas later in his career. His lengthy master's thesis was written on sprung rhythm in the poetry of the Victorian Jesuit Gerard Manley Hopkins (1844-1889), which was introduced to Ong by McLuhan (Farrell 7). Sprung rhythm is Gerard Manley Hopkins' term for a complex and very technically involved system of metrics, which he derived partly from his knowledge of Welsh poetry. It is opposed specifically to "running" or "common" rhythm (Ong 95). In his evaluation of Hopkins' sprung rhythm, Ong concludes that it is more than just a set of movements and rhythm:

> Hopkins had found the tradition of a sense-stress rhythm, which we may also call the declamatory rhythm or the interpretive rhythm of English—a rhythm inherited from Old English as one of the bases of verse until the 'reform' and the 'smoothing' of English numbers. Basically, this sense-stress rhythm is a rhythm that grows not from the tendency of English to stress every second or third syllable, but from the tendency of each sense-stress especially in emotional utterance, to constitute itself a kind of rhythmic unit. (Ong 111)

It was a commonly understood that Hopkins' sprung rhythm was not unique in English poetry: Tennyson, Morris, and Swinburne all experimented with old English meter. However, Ong establishes that Hopkins' sprung rhythm goes beyond just the rhythmic components, but speaks to larger shift towards modernism.

Hopkins displayed a sensibility and awareness that was compelling for the modernist writers of the twentieth century. His style particularly resonated with young writers as they experimented with discovering new voices and new ways of writing poetry in the world they were living in. Hopkins' perception of the self, seeking connection with other "selves" in the uncertainties of time, played no small role in this appeal. Ong's work on Hopkins is a model for both literary criticism and studies in the evolution of consciousness (Harp 232). There are suggestions of his later work here, particularly in his correlations between rhythm and the word. Like Havelock's interest in poetry in Ancient Greece, Ong is interested in rhythmic components and poetry being reflective of human emotion and the self.

Ong's work continued to take shape in his 1954 doctoral dissertation on the sixteenth-century scholastic Peter Ramus. *Ramus, Method, and the Decay of Dialogue* is an extraordinarily detailed examination in the history of logic, dialectic, rhetoric, and Ramus's quarrels with Aristotle. At the time of Ong's dissertation, it was widely considered that Ramus's ideas were archaic, and were therefore not explored in depth by renowned scholars. However, being a scholar in rhetoric and language, Ong saw something very important in Ramus' work and was well equipped for such an exploration. It is in this text that Ong first explicitly explored his thoughts on orality and visualism. In fact, this text is imperative to be able to undertake a serious inquiry into Ong's later works.

In Ramus's day, the idea that knowledge is something visual, a concept that was growing since antiquity and further progressed during the Middle Ages, reached a high point (Gronbeck, Farrell, and Soukup 33). In Ong's dissertation, he elaborates the differences between the visual and the oral that he had explored in Louis Lavelle' *La Parole et l'Ecriture* (1942). The connection between the oral and visual is significant to his greater corpus, since he attributes how the spatialization and quantification of thought in dialectic and logic during the Middle Ages allowed for a "new state of mind" to surface in print cultures (Ong, 1958). The quantification of thought, which will be discussed with more depth later, is associated with the emergence of modern science, and was a point of interest for Ong. Furthermore, there is value in unpacking some of Ramus's ideas that helped shape Ong's thought on how we acquire knowledge, specifically, Ramus's contributions towards the development of dialectic.

A twentieth century perspective would normally oversimplify Ramus's reform of dialectic to a classical perspective. However, with the proper historical context, Ramus's reform of dialectic is seen as a progression of "mental habits arising in antiquity and continuing on through the European Middle Ages" (Gronbeck, Farrell, and Soukup 33). A brief historical survey of dialectics will better situate the need for Ramus's reform.

For Plato, dialectic was a method of reasoning about beliefs and opinions. A Platonic form of dialectic proceeds by question and answer in order to arrive at certain definitions. In this regard, dialectic became a way of training young minds to assure a probable truth in debate. Aristotle maintained the Platonic notion of dialectic as a question and answer approach. Dialectic was the art that preceded rhetoric and discovered the foundation on which rhetorical discourse was based (Gronbeck, Farrell, and Soukup 28). At its core, Aristotelian dialectic was to arrive at "probably true" premises rather than absolute truth. There was not a direct correlation between formal logic and dialectic for Aristotle, since the former is interested in certainties, whereas the latter in opinion.

The concept that there was only one kind of logic (dialectic) was intensified in the work of Rudolph Agricola (1444-1485). Agricola was concerned with extending dialectic understandable to young boys. He contented that all discourse was directed towards the same end, the end being *doctrina*, or teaching (Agricola 258). His notion of dialectic was easily adaptable to various technologies that developed, such as the Gutenberg printing press. The creation of the printing press favored a mindset conditioned to think of works as isolated units that are "clear and

distinct" (Gronbeck, Farrell, and Soukup,235). Agricola concluded that that knowledge is something that can be seen on a page or is visual.

Dialectic as visual is the primary link between Agricola and Ramus. For Ramus, the role of the dialectician is to communicate clearly through "discoursing well" (Ramus 117). This type of dialectic is deeply rhetorical. Ramist dialectic seeks to minimize interpretive power and concerns itself with organization discourse. For Ramus, organization of discourse was an update of the classical canon of "judgment. " Overall, Ramist methodology was a method of defining terms in a way that made them easy to remember. While he did not label his method as a "memory system" per se, that is really what is was (Gronbeck, Farrell, and Soukup 61).

The evolution of dialectic into the Ramist perspective reveals two important elements of Ong's analysis on Orality and Literacy. First, Raminism is appealing in terms of an "account keeping" device of the new vernacular-speaking business class. Second, Raminism exemplifies a shift in Western consciousness from habits of gaining knowledge as something heard, to gaining knowledge as something seen (Gronbeck, Farrell, and Soukup 129). The latter is incredibly important for Ong, as it represents a fundamental alteration in the way we experience the world and gain knowledge. This will ultimately be the jumping off point for his work in *Orality and Literacy*, but was influenced through his work on Ramus.

Ong on Orality, and Literacy

Ong's study of sprung rhythm and Ramus allowed for him to write his seminal works, *The Presence of the Word* (1967) and *Orality and Literacy* (1982). It is in these texts that Ong solidifies his place in media ecology. As Ong was writing,

there was an emphasis on literacy. Pulling from many of his own past works, as well as expounding on the work done by Marshall McLuhan and Eric Havelock, Ong identified the benefits that an oral culture might provide. The result was two texts that grappled with the most fundamental unit of communication, the word, and explored the implications of its being lost to modern mediums.

'Why' Orality?

At its core, *Orality and Literacy*, the summation of 30 years of his work, explores the impact of communication technologies on how we *think* and obtain *knowledge*. Contemporary technologies, particularly the electronic technologies most widely used by the general public, are destroyers rather than creators of thought in comparison to print (Hartley xi). As noted earlier, Ong is a "master of noetics" and knowledge, which makes him the right person to undertake such an important study into orality. Modern media studies scholar John Hartley explains: "Ong's expertise lay in using skills of literary-historical research and textual criticism to tease out the way that the pre-modern arts of knowledge–logic, rhetoric, and dialectics–were transformed following the emergence of writing" (Hartley, 2002, xi). In other words, systems of thought changed drastically as a result of print culture becoming the dominant paradigm.

Ong drew from Eric Havelock, who proposed that there was a fundamental shift in the form of thought that coincided with the transition from orality to literacy in Ancient Greece. Ong described writing as a technology that took time and effort to learn and utilize. As a result, this transformed human thought from the world of sound to the world of sight. As Ong contends, "writing restructures consciousness"

(Ong 230). He writes that, while writing alienates the self, exteriorizes thought and restructures consciousness, primarily oral cultures are additive, aggregative, redundant, conservative, participatory and agonistically toned (Ong 78).

As previously mentioned, Ong's major concern that runs through the majority of his works is the impact of the *shift* from orality to literacy. Writing is a technology like others (fire, the steam engine, etc.) that when introduced to a "primary oral culture (which has never known writing)" has wide-ranging impacts to all areas of life. Oral cultures require strategies for preserving knowledge in the absence of writing. These include a reliance on proverbs or condensed wisdom for making decisions, epic poetry, and stylized cultural heroes (wise Nestor or crafty Odysseus). Writing forces these strategies to atrophy, and creates new ways for remembering cultural material, which itself changes (Ong 144). When a new technology is introduced, there are often casualties, and in this case one of the casualties is orality and its positive influences on our minds. Additionally, the old methods of communication are replaced or never again utilized in the same ways they were prior to the shift.

Although the redundancy that characterizes orality is more prominent and favored by rhetors speaking before large audiences than in smaller face-to-face communication and interaction, the rhetor's "need to keep going while he is running through his mind what to say next also encourages redundancy" (Ong 38) even at the interpersonal level in primary oral cultures. Similarly, because "conceptualized knowledge that is not repeated aloud soon vanishes...Knowledge is hard to come by and precious, and society regards highly those wise old men and women who

specialize in conserving it, who know and can tell the stories of the days of old" (Ong 41), Orality is similarly conservative, traditionalist and inhibitive of experimentation. Also, "by keeping knowledge embedded in the human lifeworld" orality "situates knowledge within a context of struggle " (Ong 44). If the spoken word cannot be abtsratced from the human lifeword, it must exist and give meaning to the struggle for survival that characterized many oral cultures. The agonistically-toned discourse of oral cultures that has been "institutionalized by the 'art' of rhetoric" (Ong 45) must also exist close to the human lifeworld.

Ong's explorations into orality/literacy issues are what scholars call the "science of science," meaning an investigation not into *what*, but *how* we know. He popularized the idea that knowledge is the product of language and the word, and that the medium in which language is communicated (through voice, writing, and print) forces us to think along "path-dependent lines" (Hartley xxi). Father of modern linguistics, Ferdinand de Saussure (1857-1913), called attention to the primacy of oral speech and words, and referred to writing as a form of language. He states that writing has "usefulness, shortcomings, and dangers (Saussure, 1959). "However, his perspective is one that needs to be adopted for the work in this project, which is to view the technology of writing as a sort of "compliment" to oral speech, not a transformer of orality (Saussure, 1969). This maintains the sacredness of orality, in the spirit of Ongism.

Since the work of Saussure, there has been a plethora of developments in linguistics, specifically in phonemics. Phonemics is "the way language is nested in sound" (Ong 5). Henry Sweet is one of these modern linguists who proposed that

words are not made up of letters, but a set of "functional sound units or phonemes" (Ong 5), which parallels much of what Ong wrote during his master's thesis on sprung rhythm. Regardless of which approach is used (reading or writing), Ong proposes that all thought is analytic, meaning it breaks matter into various other parts.

The irony is that knowledge and information can *still* be transferred between humans through primary orality: people with no "training" in reading or writing still obtain great wisdom. According to Ong, this is done though *apprenticeship*. This metaphor is vitally important to utilize in a modern technological environment. For example, hunting with experienced hunters might work better than reading about how to hunt.

Similarly, learning language through listening and then repeating what one hears by mastering proverbs and ways of combining words, is often times more valuable than studying them (in a strict sense of the word). Noam Chomsky proposes that the ability to learn language is hard wired into the brain. His theory suggests that linguistic ability becomes manifest without being taught and that there are properties that all natural human languages share (Chomsky 53). However, one develops language to the highest degree through the apprenticeship model (which will be discussed in depth later in the project). One cannot just settle for these "hard wired" human tools to suffice for our development, rather we need to build on them, develop them, and expand them to our fullest degree. This metaphor is more important today than ever before because apprenticeship implies a face-to-face interaction with a human that is completely unmediated by technology. As the

quantification of thought permeates into the realm of language, "studying" it is the common approach used. In regards to the study of writing, Ong states, "One of the first things that literates often study is language itself and its usages. Speech is inseparable from our consciousness and it has fascinated human beings" (Ong 9). A vital component of Ong's evaluation of literacy in the modern era is his notion of *secondary orality*. Ong describes the electronic age as an age of secondary orality, meaning that the orality of newer technologies (television, radio, etc.) is dependent on the existence of writing and print. For example, a news anchor reading a teleprompter with words exemplifies secondary orality, as it only exists in a post-literate culture. Ong describes it as "essentially a more deliberate and self-conscious orality, based permanently on the use of writing and print" (Ong 136). According to his way of thinking, secondary orality is not primary orality, which is the orality of pre-literate cultures. Oral societies operated on what Ong calls polychronic time, meaning many things occurring at once. Socialization played a significant part in the way these cultures functioned, where memory and memorization were of greater importance, increasing the amount of copiousness (Ong 137). Oral cultures were *additive rather than subordinate*, closer to the human life world and more situational and participatory than the more abstract qualities of literate cultures*:* "the normal full existential contexts which surround oral discourse...help determine meaning in oral discourse somewhat independently of grammar" (Ong 37). For primary oral cultures that rely on memory for passing on their customs and traditions, orality must be *aggregative rather than analytic*. The

"load of epithets and other formulary baggage" that literacy considers unnecessarily cumbersome is crucial for oral cultures that rely on memory (Ong 38).

Although the *redundancy and formulaicness* that characterize orality is more prominent and favored by rhetors speaking before large audiences than in face-to-face communication and interaction, the rhetor's "need to keep going while he is running through his mind what to say next also encourages redundancy" (Ong, 38) even at the interpersonal level in primary oral cultures. Similarly, because "conceptualized knowledge that is not repeated aloud soon vanishes...Knowledge is hard to come by and precious, and society regards highly those wise old men and women who specialize in conserving it, who know and can tell the stories of the days of old" (Ong 41), Orality is equally traditionalist.

Ong states that oral cultures avoid complex 'subordinative' clauses. He cites an example from the Douay-Rheims version of Genesis (1609–10), noting that this basic additive pattern has been identified in many oral contexts around the world: "In the beginning God created heaven and earth. *And* the earth was void and empty, and darkness was on the face of the deep; *and* the spirit of God moved over the waters. And God said …" (Ong 37). Demonstrating how oral modes of communication tend to evolve into literate ones, Ong additionally cites the New American Bible (1970), which offers a translation that is grammatically far more complex: "In the beginning, when God created the heavens and the earth, the earth was a formless wasteland, and darkness covered the abyss, while a mighty wind swept over the waters. Then God said …" (Ong 37). The first example from the Douay-Rheims version illustrates an additive pattern using the word "and," whereas

the New American Bible from a literate culture is devoid of the "and." This is Ong attempting to show the changes in language that occur as a result of widespread literacy.

It is often thought that Ong and other orality/literacy scholars are placing orality *versus* literacy. However, such an interpretation of Ong and others would be superficial. There is much more depth to their explorations. Expanding upon what was described in the *Gutenberg Galaxy* and *Understanding Media*, McLuhan and his son Eric McLuhan discuss the ramifications of the shift of consciousness that took place in the transition from non-literacy to literacy, from an oral, tribal culture to a visual, alphabetic civilization.

The advancements of the West are primarily driven by the discovery of the alphabet, the discovery of movable type, and its utilization in the printing press. In general, McLuhan argues that there are two forms of consciousness, the one oral and the other visual (McLuhan and McLuhan 35). Similarly, Ong was cognizant of the shift from an oral culture to a literate one, or from the audible (ear) to the visual (eye), and how this transition had significant effects on our consciousness. Subsequently, every shift after the major one (orality to literacy) comes with a new set of changes. When the visually oriented consciousness developed, it struggled to acknowledge the oral. This was largely in part because of issues with *logos* and *mimesis*. In other words, the visual orientation struggled to comprehend the oral because it perceives the oral conceptualization as primitive (McLuhan and McLuhan 35). Media ecology scholars have explored the oral and the visual forms of consciousness at length, but the shift into the *current* electronic age is still novel.

Much of the work from scholars like Neil Postman and Lance Strate are now being tested given the new paradigms of media ecology in a technologically oversaturated environment.

Therefore, Ong's orality and literacy theorems are founded on duality. The two terms "orality" and "literacy" can be coalesced in a variety of ways to construct a sophisticated analysis. Conversely, they can be opposed and used to modify or correct one another. This creates opportunity for constructive scholarship to be done. Ong prefers to take the structuralist approach: "he (Ong) prefers to return time and again to his more totalizing orality and literacy theorems because they widen his vision and enlarge his insights so he can subsume under them both the self and society" (Gronbeck 84).

To better understand the connection between Ongism and systems of thought throughout historical periods, I will provide a brief overview of how systems of thought changed as new technologies were introduced. Ancient and medieval rhetoric (roughly 500 BCE – 1500 AD) emphasized the oral tradition. Since orality was a rhetorically based system, it "ultimately took all knowledge as its province" (Ong, 1971, vii).

The European Reformation (1500-1700) marked a time when print-based Raminism changed knowledge, as well as religion. According to Ong, print-based Raminism linked religion with the rise of capitalism, which created a dependency on scientific methodology over rhetoric (Ong 57). The Enlightenment (1700-1900) valued reason and individualism rather than tradition, and these motivations aided in the growth of the American Republic (Berry, 1997). Finally, modern knowledge

is driven by writing and print-literacy, which has transformed human consciousness as a whole, allowing secondary orality to emerge as digital media rules our modes of communication.

The oral tradition has deep roots in the West amongst the Ancient Greeks. These roots need to be explored in order to revive Ongism in today's post-electronic age. *Techne' rheotike* or "speech art," was a product of writing. Speech and writing worked together in a constructive manner, rather than one *or* the other. Rhetoric essentially meant public speaking, which for centuries remained the paradigm of all discourse on the topic (Ong 78). Therefore, in a literate culture similar to that of Ancient Greece, writing did not reduce orality, but enhanced it. Writing allowed the organization of principles of oratory into scientific "art. " This type of relationship is one that can be transferred into a post-electronic age. However, in order for this relationship to occur, there needs to be a reconciliation between orality and technology (technique) in which one enhances the other, similar to the Greeks and speech art. However, the traditional notion of orality gets significantly challenged as science leads the conversation on memory. Compartmentalizing the discussion on memory via psychology and science makes orality a victim to the quantification of thought.

Chapter 2: The Quantification of Thought

The *quantification of thought* is a conception that traditional and modern media ecologists continue to explore. The fourth chapter in Ong's dissertation addresses this: "The Distant Background: Scholasticism and the Quantification of Thought. " Quantification of thought refers to a shift in how we process information from a "word" orientation to a "visual" one (Strate 4). As noted in Chapter 1, Ong begins to develop the quantification of thought through Ramus's reform of dialectic that is characterized through a shift in the way we obtain knowledge, orally to visually. Ong's description of the "new state of mind" that ushered in the print age is related to a controversial claim in his dissertation concerning *branching dichotomies*.

During the time of Ramus, he and his followers came to favor this conception. Thomas Farrell outlines Ong's take on Ramus' branching dichotomies: "Ong correctly notes that such arrays of branching dichotomies can be found in manuscripts that were composed before the moveable printing press was invented. However, because the printing press expanded the possibility of exact duplication of such branching dichotomies, Ong connects their popularization by Ramus and his followers with the development of the printing press" (Farrell 42). Branching dichotomies refer to the splitting of a whole part into other, non-overlapping parts. This leads to the "spatialization of consciousness" according to Ong, which has significant effects on how we process and acquire information. It is suggested that the power of print to reproduce exact duplicates of such arrays of dichotomies

contributed to their increased popularity. Ong is identifying a major shift in how our consciousness has "progressed" to a visually oriented perception and away from the oral. This is one step in a line of transformations that occurred as a result of changes from oral, to print, to literate, to electronic cultures. Shifts such as this have changed the way we perceive the world, the way we communicate, and today, the way we rely on external mediums to store information.

Ong considers the quantification of thought in logic to have developed in centuries prior to the renaissance and the invention of the printing press (which perpetuated and expedited further quantification). Many of the effects that result in the quantification of thought (one of which being the atrophying of memory) were predicted nearly two millennia ago when Socrates grieves over the unintended side effects that writing has on memory. In Socrates dialogue with Phaedrus, Socrates narrates how Thoth, an Egyptian god who created letters, underestimated the effects of his invention: "This discovery of yours will create forgetfulness in the learners' souls, because they will not use their memories; they will trust the external written characters and not remember themselves. The specific which you have discovered is an aid not to memory, but to reminiscence" (Plato 274). Even during antiquity, Socrates sees something inherently dangerous about the heavy reliance on printed words. The dangers he refers to then would be exponentially worse when words eventually went into print.

Medieval scholastic logic, from which Ramist logic is derived, is understood as a prelude to modern mathematics, physics, and modern science. Ong writes: "medieval scholastic logic appears as a kind of pre-mathematics, a subtle and

unwitting preparation for the large-scale operations in quantitative modes of thinking that will characterize the modern world" (Ong 72). The modern world for Ong is a world with a new state of mind that is based in a mechanistic way of thinking. Hence he often used comparisons to mathematics, which is described as a systematic approach. Mathematical methods that maximize efficiency are often the choice in today's electronic culture. Quantification of thought is therefore a move towards placing primacy on the mechanistic and away from the human.

In the preface to the 1983 edition of Ong's revised dissertation on Ramus, he identifies a similar, more modern correlation between Ramus' dichotomized charts and digital computer programs of the electronic era:

> One connection that would have to be brought out would be the resemblance of Ramus' binary dichotomized charts to digital computers. Like computer programs, the Ramist dichotomies were designed to be heuristic: they belong to the part of the logic known as 'invention,' that is, finding. The quantifying drives inherited from medieval logic were producing computer programs in Ramus' active mind some four hundred years before the computer itself came into being (Ong xvi).

Ong identifies striking connections between much that was going on in the sixteenth-century consciousness as well as in the modern world. These preliminary findings for Ong play larger roles when he analyzes with more detail the significance of these changes in *Orality and Literacy*. As a matter of fact, computer scientist

Philip Leith draws from Ong's work on Ramus to suggest that Ramus was one of the first computer scientists (Leith 166). Therefore, the creation of the modern mind is not something that occurred overnight, but was incremental.

Ong is particularly interested in the dynamics of textuality of words, and the distinct differences between words in text versus spoken words: " Although they (text) refer to sounds and are meaningless unless they can be related – externally or in the imagination – to the sounds, or, more precisely, the phonemes they encode, written words are isolated from the fuller context in which spoken words come into being" (Ong 100). Ong continues to discuss how the word is real, natural, and unadulterated. It requires a real living person(s) in order to engage in discourse and can never occur in isolation, but with another human(s). Words are alone in text, which reorganizes, changes, and alters the human based paradigm of communication. Written words are unable to portray human emotion and intonation the way that words can orally (lively, excited, sad, upset, mad, happy, etc.).

When there is a shift in how we think and communicate (to use Ong's term, a quantification in the way we think or communicate), part of our consciousness changes. Using the previous example, medieval logic gave rise to the quantification of thought. A mindset was created that enabled the eventual permeation of a particular *kind* of thinking.

Ong's identification of the medieval type shift in thinking is vitally important for a few reasons: 1) it provides a basis for understanding the lineage of how our consciousness and thought has changed historically, enabling it to be applied to

modern cultures; 2) it provides a framework for identifying quantifying ways of thought; and 3) it is the foundation for establishing a reason why our memories begin to fail us as this mindset becomes infused into virtually every aspect of modern society. The process of developing our memory requires dedication and work in order for it to reach it's full potential. A byproduct of this process is building on our abilities to critically think through situations, arguments, and complex scenarios (similar to speech in Ancient Greece). The atrophy of the art of memory is the atrophy of our ability to critically think, thus information does not develop into knowledge. In other words, we are unable to fully develop and use our memory, and lack of use causes atrophy. Learning is fragmented into grocery lists to be "memorized" and then forgotten. The reason is in part, because electronic media does the thinking for us. Ong has been long interested in this shift as evident in his dissertation on Ramus (shift from oral to visual) as well as in *Orality and Literacy* (shift from an oral to literate culture).

Each of these is paradigmatic of a larger issue at hand: writing restructures our consciousness and is a result of the quantification of thought. We start to see changes in how we experience the world as a result of changes in the way we view and process the world (quantification of thought). Writing is one example of what happens when our thought processes become more quantified, rigid, and compartmentalized. The shift from an oral to a visual culture was a paradigmatic shift in how we experience the world. A visual culture allowed for writing to be introduced as a new way to communicate with others as well as take part in the

world. Writing is simply an example of this process. The subsequent shifts we are experiencing resulting from electronic media are a much more pervasive example.

Quantification Leads to a Loss of "The Word:"

While Ong's work spans multiple areas of study, he is often considered one of media ecology's foundational scholars. Lance Strate provides a helpful way of understanding Ong and media ecology: "media ecology is a term used to refer to the kind of perspective associated with Ong, his former teacher Marshall McLuhan, and orality-literacy scholars such as Eric Havelock, Dorothy Lee, and Jack Goody (Strate 161). " Strate is referring to a perspective that looks into how mediums of communication affect *human perception, understanding, feeling, and value*, and how our interaction with media facilitates or impedes our chances of survival (Postman, 1970).

Media ecology also includes the work of Jacques Ellul, Lewis Mumford, Neil Postman and Harold Innis, to name a few that will be discussed in this project. Ong's broader inquiries are often focused on how changes in the way we process information ultimately alter our consciousness. This project will take it one step further, and show that the ubiquity of newer technologies are expediting shifts outlined by Ong and others, causing the art of memory to not develop and therefore atrophy. Ong is a rhetorician at the core, and approaching technology from a rhetorical perspective allows for a productive conversation because rhetoric is living, and breathing. It is not a technical, but a discursive approach that will let Ong's orality perspective rise to the surface. This is the way to combat or cope with

the ongoing quantification of thought processes that characterize the modern paradigm of thinking.

Every time there is a development in the quantification of thought, there is a move away from utilizing "the word," a concept at the heart of Ong's corpus, and a step towards focusing on technologically mediated forms of communication. At its foundation, Ong's work is concerned with the word as the fundamental form of all human communication, as well as the basis of human knowledge (Strate 161). He and many other media ecology scholars have argued that the "ongoing technologizing" of the word has been the impetus of social and psychological change throughout human history.

Keeping in line with Ong and other media ecologists, we have moved away from the reliance of the spoken word, printed word, and electronically recorded word, and moved towards a complex form of communication that is characterized by mediated conversations with others, as well as images and numbers. In doing so, we have drastically transformed how we communicate as humans. It is commonly thought that these changes are positive, making it easier and more efficient to communicate to one another. However, the unintended consequences are often neglected. Ong states that we have gone through so many media/cultural changes that it has become difficult to see the value of orality and the preservation of the word. Orality is often times undermined or destabilized by the launch of a new medium. He calls this "residual orality," describing the remaining form of oral communication and literacy left over from the previous medium (Ong 92).

Quantification of thought ultimately leads to the replacement or major change of a previous mode of communication: orality was replaced by literacy, electronic media changed literacy, and now electronic media is replacing our abilities to sustain our human characteristics (such as thought, memory, etc). Each of the aforementioned shifts occurred because our minds become more and more accustomed to thinking in ways that differed tremendously from previous ways of thinking. According to Turkle, quantification is the act of counting and measuring that maps human sense observations and experiences into members of some set of numbers (Turkle, 124). Therefore the quantification of thought pertains to analyzing rather than synthesizing the way we think.

Quantification of thought is an attempt to neatly organize and "number," so to speak, how we think. Ong and other media ecologist take issue with this because thought is not something that can be numbered and quantified. Thought is spontaneous and develops in different ways and at different levels for every person. Literacy is one example of the quantification of thought in that it compartmentalized and arranged orality for literates to read. Of course it was an integral development, but email, social media, and other forms of electronic media have quantified our communication processes and thought even more by using complex algorithms to manage our interactions with others.

Part of Eric Havelock's sweeping thesis in *Preface to Plato* touches base with the effects of when thought is quantified through literacy. Literacy induces "interiorization" of the self (Havelock 82). In other words, communication is now directed inward versus outward. Human communication concerns itself with

interactions amongst other humans: conversation, storytelling, poetry, music, and other exchanges that are contingent on face-to-face human contact. Part of the quantification of thought refers to the shift away from a human form of communication, towards a more insular, isolated form of it by using technologies to mediate our communication with others. Through the development of a print culture, we no longer count on others to pass on information verbally rather through the written word as a mediator between humans. When Ong was writing about the quantification of thought, he was referring to the emergence of a print culture during the Middle Ages. However, the concept behind a print culture (quantification of thought and a more methodical thinking) is a testament to the growing systematic changes the way humans communicate and think. McLuhan also points towards this shift away from human communication in *The Gutenberg Galaxy*. McLuhan reveals how communication technology (alphabetic writing, the printing press, and electronic media) affects cognitive organization, which in turn has profound ramifications for social organization and the way we think (McLuhan, 51). For example, according to McLuhan the invention of moveable type greatly accelerated, intensified, and ultimately enabled cultural and cognitive changes that had already been taking place since the invention and implementation fo the alphabet. Print culture, ushered in by the Gutenberg press in the middle of the fifteenth century, brought about the cultural predominance of the visual over the oral (McLuhan, 59). Print technology changes our perceptual habits ("visual homogenizing of experience"), which in turn affects social interactions (fosters a mentality that gradually resists all but a specialist outlook). According to McLuhan,

the advent of print technology contributed to and made possible most of the salient trends in the Modern period in the Western world: individualism, democracy, Protestantism, capitalism and nationalism. Extending McLuhan to today, one of these most pervasive trends can also include digital technologies like the Internet, social media, and other similar forms.

In her most famous work *The Printing Press as an Agent for Change*, Elizabeth Eisenstein explores the various effects of moveable type on the evolution of printing. She gives particular concern to the literate elite of Western Europe that emerges after the Gutenberg press was created. Eisenstein outlines the printing press's standardization and preservation of culture that assisted the Protestant Reformation and the Scientific Revolution. A major idea that comes out of this is "the unacknowledged revolution," which is her name for the revolution that occurred as a result of the invention of print. This revolution allowed the masses to access books and knowledge that were never available before and ultimately led to the growth of public knowledge (Eisenstein 67).

Extending Ong's insights into today, we are referring to the emergence of an electronic culture that is programmed and coded by a complex use of numbers. Communication through social media, email, and other similar tools is enabled through scientific advancements in technology. The primacy is on the machine not the human. Of course, Ong and others are not degrading the importance of literacy and what it has done for society at large, but they are asking us to stop and think about what has been lost as a result of this rapid change. As mentioned, it is a move inward towards the self and away from the other. This is a significant shift that

cannot be overlooked since many of the outcomes of the oral to literate shift are exacerbated during the shift to the electronic age.

Scholarship on ancient writings has made it possible to reveal a fascinating relationship between developments leading to the creation of writing and our recent emphasis on digital computer literacy today, elucidating the discussion on origins of the quantification of thought. The three major early systems of writing in the world, the Sumerian (3000 B. C.), the Chinese (1500 B. C.), and the Mayan (A. D. 300), developed independently from a pictographic stage through an abstract stage to the final stage, which characterizes sound itself through visual symbols (DeFrancis 32). For the most part, these stages are uncontested; however, it now appears that pictography was not the earliest development that lead to full writing. Denise Schmandt-Besserat's *Before Writing*, has decisively proven that the Sumerian pictographic stage was preceded by a previous phase using three-dimensional tokens (symbols or 3D representations) that were originally not pictographic, rather handmade abstract clay figures comprising numerically discrete units used to process data for calculating purposes (Farrell and Soukup 23). This can be identified as some of the first traces of a quantified way of thinking. Converting data in terms of numerically distinct units is what is meant by digitization.

We can see this kind of digitization as the initial step in creating the first documented writing. Similarities exist between digitization (as we understand the term today in context with computers) and the beginnings of the earliest known writing (Sumerian), thus providing deeper thought on human culture and the postmodern age: complex microchips and processors are simply an "improvement

on clay tokens" (Coulmas 203). Coulmas's claim poses some major questions for media ecologists and orality and literacy scholars: does digitization aid in the development of writing? If it does, then the quantification of thought has an expanded role as writing develops into literacy, and literacy develops into technological literacy. Digitization has essentially been engrained into the ethos of our communication processes.

Ong spends quite some time tracing the historical context to which writing reorganizes our thought processes, and can be identified as the early stages of the quantification of thought. Many are surprised to discover that the same doubts put forth today against electronic media by media ecologists and others, are essentially the same objections that were put forth by Plato in the *Phaedrus* and the *Seventh Letter* against writing. In the *Phaedrus*, writing is portrayed as inhumane, "pretending" to be established *outside* the mind when it can only be *inside* the mind. Additionally (and directly pertinent for this project), Plato's Socrates exhorts that writing destroys memory (Plato 33). Socrates fears that those who use writing will ultimately become forgetful and rely on external resources for what they lack in internal resources (Ong 54).

In sum, the *Phaedrus* and *Seventh Letter,* according to Ong, raise four main points: (1) as opposed to speech, writing is an inhuman technological product; (2) it weakens the memory of those who rely on it; (3) it cannot respond to new questions; (4) and it cannot defend itself (Ong 127). Writing is cast essentially as a passive, impersonal product that serves as a poor substitute for speech. However, for Plato to make his objections strongly and effectively, he himself chose to use

writing (albeit in dialogue form and using characters other than himself who are speaking). This allowed him to develop his ideas in ways that were perhaps unavailable through direct speech. Moreover, we would otherwise not have his objections passed down to us in the way he intended them.

As a result, the use of writing inadvertently turned Plato against the old oral tradition. As Ong states,

> "Plato's entire epistemology was unwittingly a programmed rejection of the old oral, mobile, warm, personally interactive lifeworld of oral culture…. Platonic form was form conceived of by analogy with visible form. The Platonic ideas are voiceless, immobile, devoid of all warmth, not interactive but isolated, not part of the human lifeworld at all but utterly above and beyond it" (Ong 79).

By turning to writing, Plato was unintentionally influenced by the very paradigm of literacy he opposed—a paradigm based on seeing rather than hearing. Ong reminds us that the term idea, 'form', "is visually based, coming from the same root as the Latin *video*, to see" (Ong 80). The Platonic idea bears a resemblance to writing in that it is absolute and independent. Like writing, it can be understood and talked about; unlike speech, it has no immediate presence on a human level.

Ong always perceived writing in the same terms that he perceived technology. Writing weakens the mind in similar ways that technology weakens the mind. Calculators provide an external resource that could be done internally through the memorization of various mathematical lessons we learn, and search

engines store and regurgitate information to us whenever we seek it. In oral cultures, there is an emphasis on developing the internal resources that are innate to being human rather than the peripheral resources. However, the development of these external tools (i. e. technology that does the thinking for us) is yet another move towards the ongoing expansion of mechanistic ways of thought, in that ways in which we would naturally use our own internal capabilities are being replaced with external, quantitatively constructed ones. Postman and Innis often argue that there is a hierarchy of knowledge to modern technology (in Innis's terms, monopolies of knowledge). The small percentage of people whom possess the technological knowledge to build complex algorithms capable of storing and regurgitating information hold a monopoly over everyone else. Mastering the technique of computer engineering and programming requires long periods of education, practice, apprenticeship, and instruction, confining knowledge to those who have access to the proper education. This leaves the common folk to use and ultimately rely on this technology more than the top of the hierarchy. Each culture into which a new communicative technology is introduced "sustains traces of oral culture," but only varying. The same, then, must apply to rhetoric. It is ever changing but always present. No matter how it is defined, rhetoric shapes the culture in which it is used and, for Ong, rhetoric is much more than the transfer of information through a "pipeline" (Ong 176). It is the core society. Ong's thought on rhetoric, particularly the shift from primary orality to literacy and literacy to secondary orality, "suggests that we pay attention to how communication forms change" (Soukup 6).

Long before it was considered an art by Aristotle, rhetoric was expertly practiced by pre-Homeric Greeks, but, because "oral cultures can have no 'arts' of this specifically organized sort," the art of rhetoric for Aristotle was, like all arts, the product of writing. The oral speech that later depicted the art of rhetoric was, for the fifth-century Greek Sophists, a "rationale for what was dearest to their hearts, effective and often showy oral performance, something which had been a distinctively human part of human existence for ages but which, before writing, could never have been so reflectively prepared for or accounted for" (Ong 108). The rhetoric of 5th century Greece was agonistic and formulaic, aiming to demonstrate the validity of a given point or position through a process of invention, or "finding in the store of arguments that others had always exploited those arguments which were applicable in your case" (Ong 109). Partly due to the impression that "oratory was the paradigm of all verbal expression," the agonistic nature of rhetoric has been retained throughout an academic history that has informed and influenced "most literary style throughout the West" (Ong 110).

The invention of moveable type (writing/print) brings with it more baggage than simply ways of recording oral speech. It complicates the connection between writing and the self. As Ong articulates in Chapter 4 of *Orality and Literacy*, writing restructures consciousness by artificially exteriorizing thought: writing alienates the self from its natural setting and from other "selves." Additionally, writing allows for the development of lists, facts, sciences, and other types of externalized knowledge. Therefore writing can distance people from one another since it is often a solitary experience. Whereas oral communication presupposes face-to-face

interaction between two or more people, writing creates insularity, prioritizing an intrapersonal type of communication and thought. This kind shift is exacerbated in a technological society that paints the façade of human communication, a kind of bait and switch approach. Plato noted that texts cannot "respond when interrogated" which gave birth to a non-rhetorical style of discourse (Gronbeck 102). Ong explains about the new world of writing and what it does to humans:

> "A deeper understanding of pristine or primary orality enables us better to understand the new world of writing, what it truly is, and what functionally literate human beings really are: beings whose thought processes do not grow out of simply natural powers but out of these powers as structured, directly or indirectly, by the technology of writing. " (Ong 77)

Ong articulates that without writing, the "literate mind" could not think like it does. More than any other innovation, writing has altered human consciousness. Another way to illustrate this shift in thought would be that writing reorganizes, rearranges, and re-structures our perception and thought processes. It can be viewed as step one in the move towards the quantification of thought, a move towards a mechanistic and "in the box" type of thinking. Ong shows in *Orality and Literacy* that writing has restructured human consciousness in a way that has increased both wisdom and cultural memory.

For Ong, writing is an artificial, interiorized and fictionalized technology that transforms human consciousness, requires the use of external tools, and differs

from oral speech in a number of ways. The spoken word is "always an event, a movement in time...momentous in psychic life" that is "never autonomous but always embedded in non-verbal discourse" (Ong 160). In primarily oral cultures untouched by writing, words are separated from the present and situational context in which they are said and, because "they have no focus and no trace... not even a trajectory," words themselves become events independent of time and space (Ong, 73). Words, which must be "modifications of a more-than-verbal situation" (Ong, 176), acquire their meaning from the "gestures, vocal inflections, facial expressions, and the entire human, existential setting in which the real, spoken word always occurs" (Ong 77), not from abstracted lists, indexes and dictionaries that have been developed through the literate lens. Studying primaryily oral cultures through a literate lens is restrictive and will never allow for a comprehensive perspective of those particular cultures. Ong notes that there is "nothing outside the thinker," meaning that there is no text to produce the same utterance or for later use, rather every word is shaped "in its very form and content" by the response given at that moment (Ong 78). This also relates to the idea that that spoken word cannot be divorced from experience in the human world, and will only be remembered if it is memorable and repeatable. Ong states that the words "come into being in heavily rhythmic, balanced patterns, in repetitions or antithesis, in alliterations and assonances, in epithetic and other formulary expressions" (Ong, 34). Characterized through his master's thesis on sprung rhythm, Ong places a great importance on these rhythmic components to language and communication, which are innate to human beings.

The spoken word presupposes inclusion, inviting people to be involved in the process. However, the written word is created devoid of people and exists alone. According to Ong, literate human beings are "beings whose thought processes do not grow out of simply natural powers but out of these powers as structured, directly or indirectly, by the technology of writing. Without writing, the literate mind would not and could not think as it does, not only when engaged in writing but normally even when it is composing its thoughts in oral form" (Ong 77). As a result of text being detached from humans, it cannot be directly challenged or contested like oral speech. Commonly-made arguments against writing are that it is a manufactured product, it weakens the mind and destroys memory, that a written text is unresponsive, and that the written word cannot defend itself in an Aristotelian sense: "It would be absurd if being incapable of defending oneself with the body were a shameful thing, but it was not shameful to be incapable of doing so with speech, which is more distinctive of a human being than the use of the body" (Aristotle 136).

Innis: Time, Space, and Bias

The shift from an oral to a literate culture exemplifies one of the major shifts in how we communicate as humans. As technology becomes more complexly configured, the communicative shifts will be even more significant. Each new technology possesses a set of characteristics that will change the culture. Harold Innis is often viewed as one of the founding fathers of media ecology for his theoretical contributions to the field, as well as for the practical implications those theories have towards various technologies. At the root of Innis' inquiry, is the

suggestion that every time a new technology is introduced to a culture, that culture changes. This concept is textured through his foremost communication theory on space and time biased media. In brief, Innis' central focus is the social history of communication media; he believed that the relative stability of cultures depends on the balance and proportion of their media. For Innis, a key to social change is found in the development of communication media. He claims that each medium embodies a bias in terms of the organization and control of information. Any empire or society is generally concerned with duration over time and extension in space (Frost 12). The implications of this theory are significant, particularly in the mediated world we attempt to navigate through today, and therefore it should be addressed seriously and with meticulous care.

The Media Ecology Association identifies Harold Innis (1894-1952) as one of the significant contributors to the emerging field of study. Innis's work has influenced many of the scholars in the 1930's and 40's when media ecology was still coming to fruition, as well as the major scholars today who are applying many of his theories to the media saturated environment. Innis has 3 major contributions to the field: *The Fur Trade in Canada* (1930), *Empire and Communications (*1950), and *The Bias of Communication* (1952). Though the former two works are often his best known, *The Fur Trade in Canada* helped formulate the "staples thesis," which holds that Canada's sociopolitical history has been influenced by the exploitation and export of a series of "staples" such as fur, fish, woo, wheat, metals, and fossil fuels. W.A. Mackintosh coined the "staples thesis", but Innis provided more insight into its implications. He concludes that that there are devastating effects of the fur trade on

aboriginal people in Canada. Additionally, he explains the significance of staple products like fur, to colonial development. It also explores the effects of the staples trade on the more technologically advanced home countries of France and Britain. "Fundamentally the civilization of North America is the civilization of Europe," Innis writes, "and the interest of this volume is primarily in the effects of a vast new land area on European civilization (*The Fur Trade in Canada,* pg. 14)." Ultimately, different cultures evolve differently depending on the surfacing of a particular staple. This text had profound impacts on the field of economics, but there were also remnants of his future endeavors with communication and technologies, as each staple used in trade can be viewed as a technological advancement as a whole. Innis was also concerned about how the staple theory affected more technologically advanced societies where its socioeconomic environment differed from Canada's

Though his work on the fur trade was not directly connected with communication, this same train of thought was applied as he transitioned into the field of communication. His ensuing intellectual projects were the ones that defined much of his reputation in the discipline. In the fur trade, he focused on the various ways that a product altered or defined a culture through analyzing staple products. Using that same framework, his later works reflected a concentration on how modes of communication can have the same or similar effects.

In the 1940's, Innis began researching the effects of interconnected lakes and rivers on the development of Canadian and European empires. This ultimately ignited his interest in the complex economic and cultural relationships between transportation systems and communication (Watson 45). This kind of research not

only marked the beginning of his transition into communication, but also built upon his previous framework used to examine staple products. To clarify, in all aspects of his scholarly endeavors, he identified a significant aspect of a culture that informs how the culture functions.

Marshall McLuhan was a friend of Innis, and the two of them are considered to be the founders of the Toronto School of Communication Theory. In the introduction of Eric Havelock's memoir on Harold Innis, McLuhan discusses his early and later scholastic undertakings. In his early days, he was a "conventional arranger of evidence," and in his later days, tackled configurations rather than sequence of events (Havelock 163). In other words, Innis began to concern himself with patterns in cultures rather than putting events in order. McLuhan provides important information on how Innis is approaching his research, which will be important once we make the jump to discussing his theory on the bias of communication.

Empire and Communications was his first direct contribution to the communication realm, and is often considered his most significant academic contribution. The book was published in 1950, after a series of six lecture Innis gave at Oxford University in 1948. The purpose of the lecture was to explore British imperial history, however Innis decided to provide a sweeping historical survey of how communication media influenced the rise and fall of various empires. He focused on a wide array of medias to help substantiate his claims: stone, clay, papyrus, parchment, and paper from ancient to modern eras. Innis argues that there is a bias of each medium towards space or time that helps determine the nature of

the empire in which that medium dwells. He states in the introduction, "Media that emphasize time are those that are durable in character such as parchment, clay and stone (Innis 26)" Innis contends that these types of media favor decentralization. He continues, "Media that emphasize space are apt to be less durable and light in character, such as papyrus and paper (Innis 26.)." These space oriented medias, according to Innis, favor large, centralized administrations. Innis believed that to continue in time and to occupy space, empires needed to strike a balance between time-biased and space-biased media. Such a balance is likely to be threatened however, when monopolies of knowledge exist favoring some media over others.

In Innis' estimation, a key to social change is found in the development of communication media. Under this assumption, each different medium embodies a bias in terms of the "organization and control of information" (Innis 35). Thus, any society or empire must be concerned with both the duration over time as well as the extension in space. For Innis, these concerns can be placed on media to tangibly have an idea of what type of society or empire he is researching. Time-biased media is durable, while space-biased media is portable (Soules 34). The basic factors that make up time-biased media are long life span, durability, and stationary. From these general guidelines, Innis makes the claim that time-biased media centered empires do not encourage territorial expansion, yet the do encourage the extension of the empire over time. Also, time-biased media helps to develop social hierarchies. Furthermore, Innis claims that these types of media are related to the traditional, the customary, the sacred, and the moral. Examples of time-biased media are stone, clay, and even speech and these can be found in empires such as ancient Egypt.

Conversely, space-biased media is easily transported over long distances. This type of media is associated with secular and territorial society. The goal is to expand an empire over space. An example of space-biased media is paper; it is easily produced, it can travel long distances, but the durability is not as strong as other forms of media. To attempt to understand this distinction in Innis' work, one may look at David Godfrey summation:

> For Innis, the organization of empires seems to follow two major models. The first model is militaristic and concerned with the conquest of space. The second model is religious and concerned with the conquest of time. Comparatively, the media that have supported the military conquering of space have been lighter, so that the constraints of long distances could be lessened. Those media that supported theocratic empires had relative durability as a major characteristic so that they could support the concepts of eternal life and endless dynasties. (Godfrey ix)

Godfrey's explanation is critical to understanding Innis' work because it splits the two forms of bias into categories that are understandable. To Godfrey, Innis shows that time-bias puts primary attention on durability and space-bias puts primary attention on territory. Innis claims that for an empire to become successful, they must achieve a relative balance between time- and space-biased communications media.

While it seems as though the two sides are starkly opposed, Innis demands that stable societies were able to achieve a balance between time- and space-biased

communications media. In Innis' historical approach to understanding media, he makes the claim that "the relative emphasis on time or space will imply a bias of significance to the culture in which it is imbedded" (Innis 33).

Like Ong, a similar theme in much of Innis's work is the importance of history. In this particular work, the historical framing is of extreme importance in order to explicate the various medias that have failed those empires that it served. Also similar to his methodological approach in *The Fur Trade in Canada*, Innis is attempting to understand the affects of a media or product on a particular empire. His account of time and space based medias is comprehensive and historically driven. He examines the impact of media such as stone, clay, papyrus and the alphabet on the empires of Egypt and Babylonia. Innis also looks at the oral tradition in ancient Greece; the written tradition and the Roman Empire; the influence of parchment and paper in medieval Europe and the effects of paper and the printing press in modern times (Innis 201).

To explain that Innis does not prefer one media over the other, one could look into his discussion of the societies, such as the Sumerian, near the Euphrates and the Tigris. Unlike the Nile, which had period floods to sustain a society, the Euphrates and the Tigris had flooding that was irregular and incalculable causing the people to disperse from one centralized area (Innis 36). The decentralization of people led to a cultural shift; the shift moved to the development by theocratic city-states in which "the chief priest was direct representative of the god" (Innis 36). The growth of these city-states over time caused the development of reading and writing. There seemed to be a balance between the different types of media.

However, with alluvial clay as the medium for writing, the tendency moved and encouraged the development of a more decentralized society (Innis 36). There was a need that then needed to be balanced. "The problems of control over space in contrast to the success with which problems of time were met in religious organization necessitated centralization in the hands of a king. Control over large stretches of territory meant delegation of authority and an emphasis on law as a means of offsetting religious jealousies" (Innis 36). The Sumerian empires ultimate demise came from the break-down of political organizations as the Semitic invaders showed "in the tenacity of Sumerian institutions under alien rule. Semitic invaders rearranged the position of the chief gods of the city states" (Innis 37).

In both cases, Innis follows an empire or society from rise to fall in hopes to understand what lead to these great empires being washed away. The focal point is balance. The Sumerian societies crumbled because of their lack of balancing out their media. If a society is biased only on time, then the society can never fully flourish. If the society is biased only on space, it will be decentralized and susceptible to attacks or takeovers. It is evident that Innis clearly lays out a number of different societies in different eras to explain the ways in which this theory is useful. However, notice that this theory does not use the micro-level of understanding. This is not a sociologist attempting to understand a particular family who lived during the changes in the biases of communication. Innis' view is that of a general observer who attempts to point to key events and changes and accounts for them by understanding their uses of media.

It is often perceived that Innis' *Bias of Communication* is an extension of his previous work. It becomes clear at this point that his corpus is interconnected in various ways, as the *Fur Trade* influenced *Empire*, and *Empire* has influenced the *Bias*. Published in 1952, *The Bias of Communication* can be seen as a culmination of his previous works. *Empire* and *Bias* tend to the question that was posited by his mentor, James Ten Broeke, while studying at McMaster University in Toronto: Why do we attend to the things which we attend? This question stuck with Innis for the rest of his life, and tackles it through these two works. It can be deduced that Innis' answer to this question is that changes in communication will inevitably cause changes in the "things" that we pay attention to, or following the wording of the question, attend to. This also follows the direction that he takes his scholarship, which is interested in the various changes that occur in society as a result of political, economic, or technical transformations. This has later been identified as one of the guiding ideologies of the media ecology tradition. In sum, the central focus in *The Bias of Communication* is the social history of communication media. Innis asserts that the success of a society was based upon the balance between time-biased media and space-bias media. The comparative emphasis on time or space implies an important bias to the culture in which it is imbedded (Innis 68). The ultimate question Innis is wrestling with is: what forms of power do forms of communication technology promote? This question gets at the heart of an important concept that will be unpacked later, control, and the pervasive control that technology has on our memory.

The previous paragraph established how Innis arrived at his bias theory. We will now elucidate a more specific part of the *Empire and Communication* that is vital to his bias theory, and that is the ability of communication medias to create social change, and how space and time play into that concept. The metaphor that Innis uses is media as a "modifier" (Innis 23). The product of the introduction of a media to a society is social change.

Innis claims that every kind of media obtains a bias. Because of this bias, societies should be concerned with both the duration over time as well as the extension in space biases in each piece of media. Some factors of time and space were mentioned before, but will now be furthered. The basic features that make up time-biased media are long life span, durability, and not easily reproduced. Media of the past such as stone or clay are durable and heavy, making them difficult to move. From these general guidelines, Innis makes the claim that time-biased media centered empires do not encourage territorial expansion, yet the do encourage the extension of the empire over time. Also, time-biased media helps to develop social hierarchies. Furthermore, Innis claims that these types of media are related to the traditional, the customary, the sacred, and the moral. Examples of time-biased media are stone, clay, and even speech and these can be found in empires such as ancient Egypt (Innis 133).

Conversely, space-biased media is easily transported over long distances. This type of media is associated with secular and territorial society. The goal is to expand an empire over space. An example of space-biased media is paper; it is easily produced, it can travel long distances, but the durability is not as strong as

other forms of media (Innis, 1986). David Godfrey summarizes Innis' distinction as follows:

> For Innis, the organization of empires seems to follow two major models. The first model is militaristic and concerned with the conquest of space. The second model is religious and concerned with the conquest of time. Comparatively, the media that have supported the military conquering of space have been lighter, so that the constraints of long distances could be lessened. Those media that supported theocratic empires had relative durability as a major characteristic so that they could support the concepts of eternal life and endless dynasties. (Godfrey ix)

It was Innis' conviction that stable societies were able to achieve a balance between time and space biased communications media. He also believed that change came from the margins of society, since people on the margins habitually developed their own media. The new media allow those on the periphery to develop and consolidate power, and ultimately to challenge the authority of the center. Latin written on parchment, the medium of the Christian Church was attacked through the secular medium of vernaculars written on paper (Comer 21).

Oral communication was considered by Innis to be time-biased because it requires the relative stability of community for face-to-face contact. Knowledge passed down orally depends on a lineage of transmission, often associated with ancestors, and ratified by human contact. In his writings, Innis is forthright in his

own bias that the oral tradition is inherently more flexible and humanistic than the written tradition, which he found rigid and impersonal in contrast (Kroker 43). Though Ong does not take a stance against literacy, it can be gathered that Innis and Ong share the sentiment that orality is more human than writing, and that the written word distances communication away from humans ("human" meaning that which comes natural to our species like speaking and communicating through sounds and words).

Through Innis' investigation to show how medias have time and space biases, he is also interested in addressing implicitly how these technological developments will ultimately effect our human consciousness. He states in *Empire and Communication* that "much is preserved when little is written and little is preserved when much is written" (Innis 224). This pivotal statement brings us back to space and time but provides a different perspective in how to interpret them. Innis, like other media ecologists, was ahead of his time. He is observing a shift in terms of how information is transmitted. Before empires or cultures became literate, information was passed down orally. If it was not transmitted orally, it was written down or recorded in some manner on a "non-traditional" means such as clay or stone, which was exemplified by the Egyptians. These were obviously very hard to reproduce so in a sense they became "sacred," in that everyone in a community would understand and learn the particular tradition that was trying to be preserved through that particular "media." These have the ability to transcend time because of their "stable" physicality. Therefore when Innis is talking about time biases, he is not only talking about durability, but functionality. The time bias is partly about retrieval of

information, but also about its broad availability to the people to which is represents or serves. Once the preserved information is dispersed, it was seen, memorized and known by all.

Innis notices, however, that the idea of time biased media is changing as technology makes it "easier" and more "efficient" to communicate; two metaphors that become synonymous with modernity. Durability was soon replaced with accessibility, and literacy brought forth an emphasis on the written word. The space bias is based on things moving quickly and not lasting, and therefore the written word becomes a technology that changes how tradition, knowledge, and culture are communicated.

He is writing around the same time that other notable scholars are grappling with similar issues about orality versus literacy. Of course, Ong highlights these changes in *Orality and Literacy*, where he attempts to identify the distinguishing characteristics of orality: thought and its verbal expression in societies where the technologies of literacy (writing and print) are unfamiliar to most of the population. Ong drew heavily on the work of Havelock, who suggested a fundamental shift in the form of thought coinciding with the transition from orality to literacy in Ancient Greece. Ong describes writing as a technology that must be laboriously learned, and which effects the first transformation of human thought from the world of sound to the world of sight. This transition has implications.

Like Ong and Havelock, Innis is trying to provide texture to the idea that writing is a technology that modifies culture significantly. Referring back to Innis's statement about preservation and writing, he is making a bold statement about

what the written word has done to our memory: it is slowly depleting it. There is something intrinsically human about using our memory to store knowledge, as opposed to outsourcing it to a different mechanism like paper or a computer. What defines us and distinguishes us are our complex usages of memory. Innis is explicating this by differentiating time and space, and how each affect all media forms. He is concerned with media and communication because that is how civilizations are formulated and maintained. In sum, he notices something vitally important about "keeping our heads up." What I mean by this is that we lose the center of focus when we spend our time distracted from the human interactions that characterize our essence. This clearly positions Innis in the media ecology scholarship.

So what *does* media modify? Through recognizing the time and space biases, we begin to recognize that some media tend to last over time (ones with less emphasis on the written word), whereas others fade fast (ones with more emphasis on the written word). Depending on which end of the media bias spectrum a particular medium falls, it modifies our consciousness. We are diverted into a place where information supersedes knowledge, quantity overcomes quality, and media replaces human communication. This is part of the reality that many media ecologist fear, and Innis saw it coming long before it occurred. This is where lies some significant similarities between Innis, Ong, and many other media ecologists: technology significantly alters not only the way we communicate, but also the way in which we engage with the world. The quantification of thought is referring to a change in the way we have traditionally processed the world around us, and

ultimately the compartmentalization of how we think (i.e., a more rigid and numbers oriented approach to basic everyday functions).

Chapter 3: Our Minds Under the Influence

As mentioned in the previous section, we have moved into a new age that is similar, but also more complex in its characteristics than ages of the past. The following section will explore this new culture, clarify the potential effects on our ability to acquire knowledge, and extend Ong's analysis of orality and secondary orality into the 21st century. The questions that arise from this situation are the following: What are the characteristics of modern technologies that make it similar to and different from those of the past, and what happens to our memory as a result of constant use of these technologies? How do we develop memory when technology enables and encourages us to rely on our memory less? What can we learn from the work of Ong and other media ecologists to preserve the art of memory?

Ong's clearly-delineated stages of human communication provide a theoretical framework for and inform media ecological debates regarding how communication technologies, from writing to radio, create a communicative environment that structures human consciousness and thought processes. Unlike McLuhan, who is primarily attentive to the revolutionary implications of technological innovation, Ong sees the shifts from oral to print and, most recently, to electronic modes of communication, culture and technology as residual and evolutionary. Oral modes of thought and expression "do not disentangle easily" (Gronbeck, 1991) and persist even in highly-literate and technological cultures, making rhetoric of fundamental importance to understanding Ong's work: "When writing began, it certainly did not wipe out talk…Once they had writing they were

encouraged to talk more, if only because they had more to talk about. But writing not only encouraged talk, it also remade talk. Once writing had established itself, talk was no longer what it used to be" (Ong 86).

The evolution of literacy features some degree of oral "residue, "which, for Ong, "did not by any means vanish in narrative immediately with the coming of writing" but "tapered off gradually and unevenly" (Ong, 1982). This oral residue is evident in what Ong coined secondary orality, a culture with oral tendencies but based fundamentally on print: "Manuscript and even typographic cultures . . . sustain traces of oral culture, but they do so to varying degrees. Generally speaking, literature becomes itself slowly, and the closer in time a literature is to an antecedent oral culture, the less literary or "lettered" and the more oral-aural it will be" (Ong 6).

Given his historical knowledge of rhetoric and rhetorical theory, Ong is particularly attentive to "speaking that unveils a changed psyche" (Gronbeck, 1991) in various historical moments. For instance, although the "formulary device is no longer deeply grounded in practical living since it has now relatively limited use for knowledge storage and retrieval" (Ong 296), the repetitiveness of primary orality is evident in modern electronic communication as a "starting point for analysis" (Gronbeck, 1991), but always and necessarily dependent on print culture: "A new medium of verbal communication not only does not wipe out the old, but actually reinforces the older medium or media. However, in doing so it transforms the old, so that the old is no longer what it used to be" (Ong, 82-83).

Each culture into which a new communicative technology is introduced "sustains traces of oral culture," but to a varying degree. The same, then, must apply to rhetoric. It is always changing but always present. No matter how rhetoric is viewed, it shapes the culture in which it is used and, for Ong, rhetoric is much more than simply information transfer through a "pipeline" (Ong, 176). It is the core of sociality. Ong's thought on rhetoric, particularly the shift from primary orality to literacy and literacy to secondary orality, "suggests that we pay attention to how communication forms change" (Soukup 6).

In an anecdote from his article "Hermeneutic Forever," Ong used a conversation with a colleague to describe the difference between aural and visual thought processes: "'I would like to remind Walter Ong that, as has so often been said, one picture is worth a thousand words.' However stupid my own previous remark may have been, I could not let this remark of his get by. I came back, 'If that is so, why do they keep *saying* it?"' The transition from the aural to the visual saw "hearers replaced by readers (of texts), oral performance by literature, debate by the essay, communities by individuals" (Soukup 8). With this distinction in mind, Ong discusses rhetoric "from purely oral through chirographically-organized oratory to television-styled public address" (Ong 7) and identifies the evolutionary stages of communication: oral communication in primary oral cultures, writing in chirographic cultures, print in literate cultures and various electronic media in secondarily oral but fundamentally literate and technological cultures. Because of the work that Ong conducted in differentiating these various shifts, its is clear that we have entered a different kind of culture, one that is primarily characterized by an

inundation of technology and information that leads to unequivocal distraction from the world around us.

The Post-Electronic Age

Electronic media mark a new stage in humanity's evolution. Walter Ong refers to "electronic media" as the telegraph, telephone, radio, sound motion pictures, television, and computers, but realized he (and others at the time) were too much a part of the electronic revolution to fully comprehend the multifaceted impacts it would have. Over 50 years later, we are now able to see the scope of electronic media. Working from the corpus of Harold Innis, Neil Postman notes that when any new medium of communication is introduced, there are winners and losers. In other words, some benefit more than others from the new technology, and those that benefit are in control (Postman 76). In a post-electronic age, it is those who can speak the "language" of technique that reap the benefits. However, the damage is much more widespread than at any prior time period because our culture relies so heavily upon technology to communicate and acquire knowledge and information. If writing, literacy, and electronic media like the television are considered technologies that drastically altered the way we communicate, then the Internet, social media, and widespread use of cell phones are steps even farther away from primary orality and into a new kind of orality.

In the early 1960's, Marshall McLuhan discussed a significant shift throughout society in his landmark text, *The Global Village*. The visual, individualistic print culture would soon end by what he called "electronic interdependence," which is when electronic media replaces visual culture. It speaks

to a world of common cultures and a "village" type mentality where information can travel at speeds the world has never experienced before. In essence, this fundamentally changes the way we communicate and diminishes the importance of localism and culture. This describes one part of a post-electronic culture, which is defined through an electronic interdependence.

Modern technology (pervasive use of computers, social media, technologically mediated devices, etc.) shares many of the same characteristics and has many of the same social/cultural impacts as past technologies. The difference is the pervasiveness of its use and the complexity of the technology (creation of the technology as well as the use of it). If we refer back to Ong and *Orality and Literacy*, questions arise out of "the shifts" between oral to literate cultures and wide-ranging impacts in all areas of life. In other words, the shift towards writing was an impactful form of technology that changed more than just the way we communicate, but the way we view the world, experience the world, and interact with the world (Ong 35). Now that there has been some distance between the inception of electronic media, we can more accurately understand and characterize its impacts, hence the application of the term "post-electronic" culture.

After the Gutenberg press, the printed word became the focal point in human communication, while orality became less relevant. Literate people (which comprised only a small part of society during the Middle Ages) used manuscript books to provide assistance to, or often times, to substitute for memory. Printed books provided an accurate, portable, and convenient way to recall information without having to store it internally (Boorstin 263). Boorstin articulates that the

printed book became a new "warehouse" that mirrored "perfection" in ways that our memories are simply not equipped to do.

In addition to the printing press making it more efficient to recall information, some manuscripts after the 12th century began to include tables, running heads, and basic indexes which shows that memory was already beginning to lose some of the roles it had in antiquity. Recalling information became even easier with the addition of title pages, table of contents, and numbered pages. Though minor developments, they still forced us to use our memory even less, causing its essential atrophying.

These "minor" developments represent a significant transformation because it is the first time we see humans "outsourcing" the storage of information to an external technology. In many ways, outsourcing our memory is the byproduct of years of incremental quantifications in how we think, of shifting from an oral to a visual learning culture. Therefore, a post-electronic culture places a primacy on perfection and efficiency that is encapsulated in the growth of the printing press and other technological developments.

Modern day media ecologists are intrigued by this ongoing dichotomous situation: technology today (at the superficial level) seems as if it provides endless opportunities; however, a more thorough evaluation reveals the limits of technology. Sherry Turkle expresses this sentiment in her book *Alone Together*, where she explores the direction technology is taking us and how society adapts to answer new questions brought on by the rise of mobile technologies, robots, computers, and other electronic gadgets. Specifically, Turkle is concerned with the

way that authentic, natural social interactions decay as a result of repeated exposure to deceptive exchanges with artificial intelligence (Turkle 43). We (humans) are tricked, so to speak, to believe we are *more* connected to one another, when in reality there is more distance than ever.

There is a deep sense of irony with Turkle's central argument: the technological advancements that have given rise to the new inter-connected world have concurrently created a sense of alienation between people. This kind of "bait and switch" tactic is a common outcome for technologies today. Turkle expounds on the idea behind "authentic interactions," by discussing the dangers in allowing computers to embody human emotions and feelings. She offers a plethora of examples that demonstrate that even people who should be acutely aware of the emotional deficiency of robotic interactions (like robotic programmers) are actually astonishingly vulnerable to believing that they have emotionally meaningful communication with their technological creations. Because robots cannot feel real emotions (for the time being), they are designed to replicate humans as closely as possible. Turkle is concerned that we often attribute certain qualities to robots that the robots do not in fact possess, and that our emotional interactions with other humans become meaningless as a direct result (Turkle 49).

Turkle has identified a vicious characteristic of the post-electronic world: deception and instant gratification. We are deceived to think that our engagements are real, organic, and natural. It can be argued there is a kind of catharsis involved in "letting out" certain emotions (even to a non-human entity). However, machines

do not possess real emotions and therefore threaten to replace the foundation of human communication.

A significant example that Turkle uses to illustrate deception in technology is that of AIBO, a little robot dog that has the ability to mature and adapt. Turkle expands on several cases where children and even adults formed intimate, emotional attachments with their AIBO. Her point is that many of these people knew that the pet dog was not "real" but treated it as if it were real. The implications of this are severe because it means that we are deceiving ourselves and letting technology rule our emotional state. For example, one child stated that when he was having a bad day he simply turned off the AIBO (Turkle 53). This sense of instant gratification and emotional-playing is what worries Turkle, and foreshadows what is to come with the rise of A. I.

Human communication takes effort and time, and is not a process that one can simply turn off when he or she is having a bad day. The metaphor of "turning off" or "tuning out" is a characteristic that personifies the people of a post-electronic culture. Disengagement is perpetuated by technologies that create more efficient or expedient ways to get things done, which leads to the enabling of selectively choosing who we want to engage with and when.

Turkle is also concerned with various online social interactions and the ways in which social media have changed how people (specifically young people) connect with one another. Social media negatively influences the social dynamic by acting as a distraction during face-to-face interactions. Furthermore, distraction is perpetuated by the fact that people are aware that they are constantly connected to

the world through social media (Turkle 57). For example, Turkle discusses when students in class are not entirely "present" because they are distracted with Facebook or other social media outlets. Similarly, people in interpersonal social situations are often sidetracked by their phones, which she argues causes them to pay insufficient attention to one another. Our obsession with staying constantly connected with the world takes the primacy away from humans and towards technological devices mediating their social situations.

Turkle is particularly alarmed that young people, who are often the most deeply immersed in new technologies, have increasingly shallow interactions with one another. Our continuous immersion/distraction demeans real human-to-human interaction. The current adolescent generation is so addicted to the Internet and mobile devices that teenagers have linked their emotional state to how their friends on social media respond to them, seeking reassurance from a social media form (Turkle, 2012). This touches base with a key characteristic of the post-electronic age: constant connectivity. There is value in being able to remove oneself from a digitally saturated environment and engage in human communication; however, the current culture is not conducive to this type of "detox. "

Harold Innis, who was mentioned at length in earlier sections, is concerned about those few people who possess the technical skills needed to thrive in post-electronic type of culture. In his presidential address to the Royal Society of Canada, Innis discussed the profound influence that the changes in communication have had on Western civilization. For Innis, the history of the evolution of communication media, affords a comprehensive perspective on the shifts today: "In each period I

have attempted to trace the implications of the media of communication for the character of knowledge and to suggest that a monopoly or oligopoly of knowledge is built up to the point that equilibrium is disturbed" (Innis 30). Innis identifies one of the discipline's (media ecology's) defining concepts, monopolies of knowledge.

Innis argued, for example, that a "complex system of writing" such as cuneiform script resulted in the growth of a "special class" of scribes (Innis 49). The long training required to master such writing ensured that relatively few people would belong to this privileged and aristocratic class. Paul Heyer is an Innis scholar and elaborates on monopolies of knowledge:

> In the beginning, which for Innis means Mesopotamia, there was clay, the reed stylus used to write on it, and the wedge-shaped cuneiform script. Thus did civilization arise, along with an elite group of scribe priests who eventually codified laws. Egypt followed suit, using papyrus, the brush, and hieroglyphic writing (Heyer 94).

There is concern regarding the gatekeepers (elites) of civilization, those who possessed the technical skills of writing. Innis argued that there was a monopoly over the complex system of writing, which enabled only the educated elites to "write history," so to speak. Though Innis is referring to Mesopotamia and Egypt, this same monopoly of knowledge is present in our current post-electronic age. There is a steep learning curve amongst those who were raised in a technologic culture, those who are formerly trained in a specific technical skill, and those who do not have access to that information. Of course, in a society that values and actually

rewards those who have that "skill," there are casualties. In this specific case, the casualties are those who are technologically illiterate or technologically inferior.

Neil Postman was a modern media ecologist who was concerned about the vast unintended side effects that technology has on the human condition. He believed that new technology could never substitute for human values, even though at times they may mimic human qualities. Part of his trepidation with new technology is based around the idea of technological "winners and losers. " This phrase has a few angles that illustrate the problems with a post-electronic culture. First, technology favors some people and harms others depending on their technical literacy and ability to adapt to change. As younger generations are inundated with more and more technologically based mechanisms (thus making them more capable of navigating through and using them) and as the number of those technological devices increase dramatically, those who do not possess the skills needed to benefit from them will lose. Second, embedded in every great technology is an epistemological, political or social prejudice. Sometimes that bias is greatly to our advantage. Sometimes it is not.

The printing press annihilated the oral tradition; telegraphy annihilated space; television has humiliated the word; the computer, perhaps, will degrade community life (Postman 143). In other words, each one of the aforementioned new technological developments eliminated (to varying degrees) the prior. What media ecologists like Ong and Postman are interested in are the aspects that are lost as a result of replacing each new form of communication. Of course, it is possible to reverse the "atrophying" of our memory which will be discussed later in this project.

It is impossible for a technological innovation to have only one side effect or intended result; there are always unforeseen consequences. Postman argues that the United States is essentially the only country to have developed into a technopoly, and that we are engulfed with technophiles who are incapable of seeing the downsides of technology (Postman 187).

Technophiles are those who want more technology and attain more information without predicting or acknowledging the negatives associated with those developments. A lack of awareness is a defining characteristic in a post-electronic age. It goes back to the Ellulian concept of the technological "can," in that there is not enough deliberation done before the creation of a new innovation to fully understand the scope and scale of its impact. The main argument for this dissertation is that one of the most significant casualties as a result of technology is our memory.

Innis is pointing towards an issue that is plaguing our culture today: how we think when we are not "wired" is an aspect that defines us. Innis could have never predicted how relevant his position would be in the future with the advent of the Internet. The Internet provides a confusing example of a time or space biased media because it contains biases of each. The media ecology question that arises through Innis' theory, is what is the nature of the bias of the Internet? The Internet serves as an artifact that exemplifies the post-electronic age, making it a central part of the culture. The interesting element of the biases the Internet possesses, is that it has both a time *and* space bias. On one hand, it has a very strong bias towards time in that it conceivably will exist over a very long period of time (at least up to this

point). The mysteriousness that seems to surround the Internet is the uncertainly of what will happen to all the information that appears on it. Information on the Internet is in the control of so many different people, that it is often times unclear who controls the movement of it. It is an open domain and user controlled, but those users are either largely unknown or not easily approachable.

Another characteristic of the Internet that shares an Inninian notion of bias is that it is not just durable in the sense of something being easily retrieved, but rather it is durable in its functionality. The Internet is all encompassing and easily utilized by the public. It does take some training, however, which aids a monopoly of knowledge. It is these types of functional qualities that Innis is referring to when he describes space bias.

On the other hand, there are some space bias components to the Internet as well. One of the major elements to the Internet is that it breaks down borders, and flattens the world. In other words, it allows information to be transported over long distances. The question at hand, however, is what kind of expansion is the Internet promoting? What is it attempting to expand and promote? The answer to this question is grounds for a whole new paper, so it needs to be answered in brevity. Many media ecologists ponder these questions. In an article on social media by modern media ecologist Almond Aguila, she satirically but poignantly outlines some of the characteristics of the Internet, one of them being a “storage facility” of meaningless information (Aguila 5). There is this inactive, passive, and mechanical notion that Aguila is getting at. The information on the Internet is simply information for the sake of having information. The point that she and media

ecologists like Innis are getting at, is that media forces us to not think. It acts as our outboard memory that has a multitude of negative side affects. Innis states that writing provides us with a "transpersonal memory"(Innis 137). Our character and memory are what make us human, which to many media ecologists is of utmost importance. Therefore, the nature of the Internet is that it keeps us wired, forcing us to rely too heavily on its capabilities. This same discussion is how Innis articulates various other medias throughout time.

This concept of media as a holder of information is directly correlated to an integral part of Innis' theory called the monopolies of knowledge. Innis extended the economic concept of monopoly to include culture and politics. If we consider that a society has a network of communications systems, we can see that there are key junctures or convergences where significant information is stored, and from where it is transmitted to other parts of the system. As both Innis and Michel Foucault have demonstrated, individuals or groups who control access to those points wield great power. Those who monopolize knowledge are also in a position to define what is legitimate knowledge (Innis 92).

What is Lost?

A major classification of a post-electronic culture is the metaphor of loss**:** loss of control**,** loss of attention**,** and loss of the human element in the communication process**.** Ellul poses the question about loss quite well**:**

> What is at issue here is evaluating the danger of what might happen to our humanity in the present half-century**,** and distinguishing between

> what we want to keep and what we are ready to lose, between what we can welcome as legitimate human development and what we should reject with our last ounce of strength as dehumanization. I cannot think that choices of this kind are unimportant. (Ellul 140)

As mentioned in previous sections, there is a lot at stake for a culture that is replacing human communication with electronic forms, and Ellul voices his concern with what is lost. Other than memory, we lose our ability to rationally think through situations and make well-informed decisions. The following sections will outline the various metaphors that characterize the post-electronic age and the elements we lost in exchange for our constant connectivity to technologies. The post electronic world allows for efficiency to replace integrity, control to replace freedom, and banality to replace purpose.

Efficiency

It is incredibly important to approach any new historical moment with the care that Ong did throughout all of his work. Scholars like Ong and McLuhan have provided us with a historical map to see the various shifts in how we communicate and the effects that coincide with those shifts. It is my contention that this map has been under-utilized by scholars today, and if we pick up where they left off, it will be clear that we have entered a new age (a post-electronic age).

As mentioned earlier, in a *post-electronic age,* the effects of technologies go beyond their intended uses. "Post-electronic" refers to a type of culture that

replaces human communication with technologically mediated forms of communication. Neil Postman states that we are currently in a "technopoly." Postman defines "technopoly" as a society which believes "the primary, if not the only, goal of human labor and thought is efficiency, that technical calculation is in all respects superior to human judgment . . . and that the affairs of citizens are best guided and conducted by experts" (Postman 51).

According to multiple media ecologists like Ellul, intentionality is often not considered when creating new technologies because our culture is defined by a "progress for the sake of progress" mindset. We never stop to think if we "should," rather only if we "could. " Jacques Ellul refers to this progress-oriented mindset as "the technological can," or in other words, our inability to stop and ask "why. " If we understand technology in terms of technique (what Jacques Ellul calls *la technique*), the potential effects become more evident. He defines *la technique* as "the totality of methods rationally arrived at and having absolute efficiency (for a given stage of development) in every field of human activity" (Ellul xxv). Ellul's *la technique* is a fundamental characterization of the post-electronic age.

Technology is one example of *la technique,* but an important one to unpack in a society that is saturated by its usage and application. *La technique* can be explained as a process in which efficiency becomes the primary goal of human activity. *La technique* is a supra-ideology (all other ideologies being subservient to *la technique*) that puts rationality and uniformity above all other values (Ellul 140). *La technique* can be assimilated neither to the machine nor to a collection of machines, methods, and products. No longer a secondary factor integrated into a

nontechnical society and civilization, *la technique* has become the dominant factor in the Western world. Ellul's primary explanation of how necessity determines and dominates contemporary society was to attribute such to the methodology of "technique." He credits his life-long friend, Bernard Charbonneau, as having drawn his attention to "technique" as the most important phenomenon of sociological understanding back in 1935, and notes that had Karl Marx understood this sociological factor, he would have posited "technique" as the thrust of his social dialecticism rather than material inequities. Ellul's issue was not with technological machines but with a society necessarily caught up in efficient methodological techniques. Technology, then, is simply an expression and by-product of the underlying reliance on technique, on the methodical procedures whereby everything is organized and micromanaged to function most efficiently, and directed toward the most expedient end of the highest productivity.

Ellul points to seven characteristics of modern technique that make efficiency a necessity**:** (1) rationality**,** (2) artificiality**,** (3) automatism of technical choice**,** (4) self-augmentation**,** (5) monism**,** (6) universalism**,** and (7) autonomy (Ellul 28)**.** The first and most potent characteristic is *rationality*. Ellul states that whenever technique is in play, a "rational process is present which tends to bring mechanics to bear on all that is spontaneous or irrational" (Ellul, 79). The rationality that Ellul refers to is exemplified through systemization, division of labor, creation of standards, production norms, and has two phases: the use of "discourse" within every operation and a reduction to facts or explanations based in a schema of logic (Ellul 79). Additionally**,** it creates an artificial system which **"**eliminates or

subordinates the natural world" and gives primacy to those who obtain this technical knowledge. Ellul's evaluation of modern technologies is how the term "post-electronic culture" is perceived today—i. e. , a culture that values efficiency over humanism. A post-electronic culture falls in line with Ellul's assessments of technology in large part because it promotes action and suppresses thought, reason, and judgment. Essentially, it strips away the rhetorical components. In its rationality, Ellul critiques technique because it "excludes spontaneity and personal creativity," while artificiality "eliminates, or subordinates, the natural world" (Ellul 79). The second characteristic is *artificiality*. Ellul argues that technique is antithetical to nature and that viewing technique as an art gives birth to an artificial system. He views "the world that is being created by the accumulation of technical means" as "an artificial world and hence radically different from the natural world (Ellul 79).

Ellul spends much more time discussing the final five characteristics, starting with *automatism*. Automatism of technical choice is based around the notion of choosing "the best way possible." Under *la technique* we are constantly searching for not only the most efficient way, but also the best way, often without regards to any other factors such as personal choice: "When everything has been measured and calculated mathematically so that the method which has been decided upon is satisfactory from the rational point of view, and when, from the practical point of view, the method is manifestly the most efficient of all those hitherto employed or those in competition with it, then the technical movement becomes self-directing" (Ellul, 80). Automatism encapsulates efficiency and perfection into a process that

removes any personal choice. Technique itself without any possibility of discussion amongst others is automism. This is found in virtually any modern technology or process today: 4 is greater than 3, there is no other choice or any debate about it. As Ellul posits, it just *is*.

Ellul is quite concerned with the fact that technique has evolved and progressed over time without any intervention by man. As a matter of fact, man is excited and enthusiastic about technical progress and is "so assured of its superiority, so immersed in the technical milieu, that without exception they are oriented toward technical progress" (Ellul, 85). Technique significantly reduces the role of human intervention and purpose, thus limiting the "man of genius" who makes a significant discovery. Therefore, *self-augmentation* refers to a type of automatic growth, which is a kind of growth that is not calculated or chosen, rather devoid of human intervention to occur (Ellul 87). Ellul concludes that elf augmentation can be put into two perspectives: 1) in a given civilization technical progress is irreversible, and 2) technical progress tends to act, not according to an arithmetic, but according to progression (Ellul 89). Ellul used Lewis Mumford, fellow media ecologist, to show that the best organizations limited the use of machines. However, Ellul noted that this "best organization" is exactly technique itself and therefore is comprised of a mechanical element (Ellul 88). Even in the 1950's and 1960's Ellul is concerned that this mechanistic culture and society will eventually lead a "crisis of unemployment" since machines are more efficient and require no pay:

> "To take an example, the tabulator adds and prints 45,000 numbers an hour (as compared with 1,500 for a trained employee). It reads, calculates, analyzes, and prints 150 lines a minute. A punching machine, attached to it, produces the punched cards which recapitulate the results. The Gamma (a magnetic-drum machine) has a "memory" with a capacity for 200,000 individual items of data. A 1960-model calculating machine can handle 40,000 operations a second. The machine, along with organizational development, is now the means of reducing both the number of employees and expenses." (Ellul 88).

The *monoism* is a more abstract characteristic of *la technique*, but refers to the fact that all technical processes share the same characteristics. Ellul feels that it is "useless to search for differentiations," because the features of technique are so easy to discern from natural ones (Ellul, 95). There are virtually no differences between technique and all of the various uses. It comes down to a choice for the individual: "either to use the technique as it should be used according to the technical rules, or not to use it at all" (Ellul 98). Ellul's perspective is a bit more dismal than Ong's, however the point is that humans always have the ability to make a choice and this choice is a deliberative process that is exclusive to being human. Monism parlays quite well to *universalism*, which refers to the flattening of the principles of civilizations that were once very different. Today, technical principles govern society at large, as people "follow the same road and the same impulse" (Ellul 117). This becomes problematic in a multitude of ways, most notably the loss

of localism and traditions that were once unique to a particular culture. Ellul argues that technique imposes itself into any environment that favors efficiency and progress. The metaphor Ellul uses over and over to help push the point of universalism is "invasion." Technique invades a culture and has the potential to saturate it to the core, where every aspect of the culture is now converted to the various paradigms that accompany technique.

The final characteristic of technique is *autonomy*. Ellul notes that Frederick Winslow Taylor, who was what Ellul calls a "leading technician," depicts autonomy perfectly: "He takes, as his point of departure, the view that the industrial plant is a whole in itself, a 'closed organism,' an end in itself. The complete separation of the goal from the mechanism, the limitation of the problem to the means, and the refusal to interfere in any way with efficiency; all this is clearly expressed by Taylor and lies at the basis of technical autonomy" (Ellul 133). Autonomy is the condition to which technique develops and allows it to grow because it creates it's own rules and regulations. For example, the police must be independent if they are going to become efficient. Additionally, the police "must form a closed, autonomous organization in order to operate by the most direct an efficient means and not be shackled by subsidiary considerations" (Ellul 133). All autonomous techniques must obey the rules set forth and progress independent of the social situations that surround it. Autonomy refers back to Ellul's definition of *la technique*, in that it is a supra-ideology that exists above all other ideologies. The characteristics set forth by Ellul to describe technique allows him to assert with confidence that there is "no common denominator between the technique of today and that of yesterday" (Ellul,

146). We can conclude that the features of technique today are those that we have never seen before, in that the inherent qualities put forth by Ellul make it very hard to sustain our uniqueness that makes us human.

Ellul sets up an in-depth discussion on technique in his famous work *The Technological Society*. He compares the machine and technique with one another arguing "the machine is the most obvious, massive and impressive example of technique, and historically the first" (Ellul 2). Though technique started with the machine and in many ways relies on it, *la technique* goes beyond the machine. For Ellul, *la technique* has created an "all-embracing technological environment, which was self-augmenting and threatened to become totalitarian" (Gozzi 82). Technique is the product of a mechanistic kind of thinking that has developed in large part from the quantification of though. This mechanistic thought leads to a society that is unable to think on their own, without the assistance of technological agents.

It is important to note that Ellul's understanding of technique is not limited to technology; technology is simply one example of the use of technique, but also the most relevant in a modern society. It is the effects that really define how technique functions. In other words, *la technique* represents the lack of rationality and a lack of reflectivity that takes over a society. The effects of technology on our modern society can be best explained through a media ecology lens. Neil Postman has written extensively about technology in our modern world, and parallels much of what Ellul has to say. In *Technopoly*, Postman talks of a society that believes "the primary, if not the only, goal of human labor and thought is efficiency, that technical calculation is in all respects superior to human judgment" (Postman, 327). Like Ellul,

Postman perceives efficiency as a goal in technologically driven societies, which is ruled by "experts." Once this technical process is implemented, the efficiency of those technologies leads to the eventual loss of human morality. The danger in a culture that is experiencing a technopoly is an overabundance of useless information through the medium of technology.

Efficiency and technique are allied with science. Ellul believes that science is often simply an accumulation of facts, and is, for the most part, number driven. This quantitative mindset becomes convincing for society at large, as statistics sway public opinion and can lure people (Gencarelli 4). If the "numbers" point towards an answer, that answer becomes most widely accepted. Ellul would say that psychoanalysis, sociology, and propaganda all use science to manipulate peoples' attitudes, beliefs, and perspectives (Ellul 44). Historically, this is rooted in the Enlightenment, where the thought process that emerged during this time was utilitarian, pragmatic, and materialistic. Pragmatism marks a stark change from a more traditional oriented culture, and incrementally perpetuated the pragmatic mindset as time went on. Ellul marks this period of time as the emergence of a new ethos. He states:

> From this point of view, it might be said that technique is the translation into action of man's concern to master things by means of reason, to account for what is subconscious, make quantitative what is qualitative, make clear and precise the outlines of nature, take hold of chaos and put order into it. (Ellul 47)

This time period marked an important paradigm shift that favored the application of technicalities. In the eighteenth century, life was boiled down to the material. People felt that their problems could be solved by working less but consuming more material goods (Ellul 49). Ellul would say that today, this way of thinking has been exacerbated by the reliance on quantitative facts as well as the widespread use of technology.

Technique in the modern world spreads through technologies, and when it is done on mass scales, Ellul uses the term "massification" to describe that process. When this was written, he is referring to mediums like the newspaper, but there are a multitude of new "mediators" today that make it easier for information to spread at a faster and more abundant rate. The Internet, television, and advertising are examples of newer mediums used in a technological society, and these mediums have their own unique characteristics and affect the way information is sent and received. This means that it becomes easier for the sender to not only tailor their messages to relay exact information to the exact people, but also allows the sender to send their message to more people. There are remnants of Marshall McLuhan in this discussion, in that the medium affects how information can be received.

We are now leaving the "experimental phase" of an electronic culture, and are able to assess the damage. The electronic "fog" has subsided and the effects of technical processes are becoming easier to identify, hence the birth of a post-electronic culture. Ellul provides us with some essential characteristics of *la technique*. The implications of la technique in a post-electronic culture are yet to be determined, but given that many of the Ellulian characteristics have been

exacerbated today, one can assume that the effects will be magnified and in many ways they already have.

Distraction and Control

In addition to efficiency, there are a few other metaphors that reveal the post-electronic culture we navigate through today. Two significant ones are *distraction* and *control*. Historical periods of the past have overarching paradigms or narratives that help characterize that particular era. For example, the Middle Ages marked a time when religion was incorporated in philosophy, and modernity shifted the focus inward towards the self (Taylor xxi). Postmodernity is often characterized by what Jean François Lyotard calls "little narratives" which are meant to celebrate and understand the differences amongst the diverse publics (Lyotard 32). Today, the ruling narrative is debated amongst scholars, some of whom feel that we are still in a postmodern age while others believe we have entered a new one. It is not my intent to create a new historical moment or identify a new ruling narrative; however it is evident that the use of technologies will shape any description of our current age.

Media ecologists of the past and present such as Jacques Ellul, Neil Postman, Nicolas Carr, and Sherry Turkle all point towards the controlling nature of technical processes. In doing so, they argue that technologies distract us from human relations and have potentially dangerous effects as they can give rise to tyranny. In one of Ellul's last works before he died, *The Technological Bluff,* he concludes that technology is not "neutral," rather it is implicated in every aspect of social relations (Ellul 105). The bluff describes how the only meaningful problems are the ones that

can be fixed or addressed by other technologies. Every problem generates a technological solution; computers breed ever larger, more fragile, and vulnerable systems. However, the solutions elicit more complex problems than they solve. In turn, responsibility, contemplation, civility, and spirituality suffer as we rely on machines to solve our problems. We come "under the influence," unable to make choices on our own, deliberate rationally, or engage in meaningful human discourse because we rely so heavily on machines to solve our problems.

Regarding technology, instead of it's being obedient to people, "human beings have to adapt to it and accept total change. " (Ellul and Bromiley, 233). For example, Ellul offered the reduced value of the humanities in a technological society. As people start to question the value of learning history, they question those things that, on the surface, do little to advance their financial, personal, and technical states. According to Ellul, this misplaced emphasis is one of the problems with modern education, as it produces a situation in which immense stress is placed on information in our schools. The focus in those schools is to prepare young people to enter the world of information, to be able to work with computers but knowing only their reasoning, their language, their combinations, and the connections between them.

This movement is invading the whole intellectual domain and also that of conscience (Ellul 239). These developments over time lead to a transformation of our priorities. We (humans) become obsessed with utilizing shortcuts to solutions, which motivates the technology world to continue to create more mechanisms to meet that demand. In the end, our attention is given to these shortcuts and taken

away from human communication. In other words, we become distracted from the human based activities we have become accustomed to as people.

Sherry Turkle explores this issue of *distraction* in her book *Alone Together*. Turkle took part in one of the first studies conducted on the interaction between humans and computers in the late 70's early 80's. In this study, she asked her students to interact with ELIZA, a computer program designed to "communicate" with its users. Her discovery was that students felt more comfortable trusting ELIZA with their inner secrets than they did with human beings. The appeal to her students was what Turkle labeled a "no-risk" relationship, meaning they thought ELIZA would not tell anyone else their secrets or problems and they could trust it since it was not human (Turkle 43). The students' trust in ELIZA raises a multitude of concerns, primarily about how we change as technology offers us substitutes to human interaction. It distracts us from the authentic human relationships that differentiate us from a computer. We become so fixated on the technologies that we feel they can provide the human emotions needed to exist; we become distracted from humans.

This idea of *authenticity* raises another point. For our purposes, we can define authenticity as being able to put oneself in the place of another, to relate to the other because of the shared human experiences we might have. This understanding of authenticity is something that a computer simply cannot provide; yet, our culture is so focused on creating a device that can achieve authenticity rather than engage authenticity as it was meant to be, between humans.

Control is another byproduct of a post-electronic culture. Mediation and control become synonymous today since we tend to engage in communication *through* technological mediums. These mediums control the communication, or to go one step further in the spirit of McLuhan, they are "extensions" of us. This term is often misread, because it implies that media are part of us, but it also implies that in order to understand media and use it appropriately we need to be detached from it (McLuhan 152). As mentioned before, there is no place within the technological system for resistance, alluding to the importance of distance from the control (Ellul, 72).

Control can also be explored from a different perspective in the evolution of who has control of the information we receive. In his influential book, *Bias of Communication*, Harold Innis coins the phrase "*monopolies of knowledge*," meaning those who control the knowledge decide what is disseminated and how it is disseminated (Innis, 284). The bias occurs when people are not receiving the entire perspective on a given topic, but only the slant from the person(s) who controls the input and dissemination of it. Those who thrive in a post-electronic culture are technicians or experts on how to create, maintain, and disseminate information through a mechanistic medium. Consequently, a primacy is placed on our ability to use the technologies that dominate a particular culture. Those who cannot properly employ them, end up "losing" as Neil Postman comments. This is a type of control that we would not allow if we were asked.

Monopolies of knowledge tend to polarize societies into a mass of the ignorant and a knowledge elite. Monopolies of knowledge encourage centralization

of power. Those who control knowledge have the power to define reality. The discussion becomes complex when one attempts to identify who controls the information available on the Internet, but essentially the media/medium tends to be self-perpetuating. Nonetheless, the Internet and other modern forms of communication become an extension of Innis' corpus, as it contains both a time and space bias, and also ends up creating a monopoly of information rather than knowledge (favoring information over knowledge). "The effective government of large areas," he writes, "depends to a very important extent on the efficiency of communication" (Innis 26). Innis is thinking about how various media forms are shaping the discourses that give rise to, and ultimately cause the demise of empires and societies. He is concerned with the patterns in communication and media that allow a kind of discourse to occur and not to occur; one leading to the long-term existence of empires while the other does not.

Innis provides a very unique way to think about media ecology that both situates him within the tradition, but also distinguishes him and his ideas. Innis argues that the "bias" of each medium either toward space or toward time helps determine the nature of the civilization in which that medium dominates. The integral part of communication, language, is one element that is not a major part of Innis' bias theory. In a significant sense, language is not subject to the same biases of other media forms that he discusses in *Empire*. The switch to a literate culture, where information, traditions, and events were written down, marked a devaluing of orality. For scholars like Innis and Ong, it isn't orality *vs*. literacy, but since there

was a shift to literacy, there is a need to reclaim the essence and discursiveness that spoken language allows.

Secondary orality in a post-electronic age takes on new characteristics, and has an expanded meaning today. To review, secondary orality is a type of orality that is dependent on a literate culture and the existence of writing. Today, secondary orality can be understood as dependent on *technically literate* cultures and the existence of writing to survive. In other words, those who do not understand how to use and navigate through a particular piece of communication technology (in addition to writing), will be left behind. There is a growing demand to be technically literate, with virtually every type of business (large or small) having a digital presence. Traditionally, a vocation such as a physician or a lawyer required one to be able to diagnose problems and remedy them through the skill set acquired by schooling and practice. Though this process still exists today in some form, having a flashy website, an aesthetically pleasing brand image, and good online customer reviews can determine the success or failure of that person or business.

Again, Postman argues that there are winners and losers. In a culture that is virtually run by technological processes, we can deduce that the losers are those who do not possess this technical ability. It might be appropriate to extend Ong's orality and literacy studies for the 21st century to *Orality, Literacy and Technical [Technological?] Literacy* studies. Our sense of what is real and fake has become clouded as we allow the technical literacy to overcome our human literacy. Turkle describes how technical literacy is often more valuable in a post-electronic age, and

that the more one gets inundated in technical culture, the more likely they are to believe that a real, meaningful discourse can occur there (Turkle 53).

Media ecology as a discipline is often criticized for a deterministic approach. This approach alludes that all of society is affected by one central condition--technology. Modern scholar and media ecology contributor, Michael Zimmer, comments on the technological determinist tendencies in the field:

> An overarching thread in media ecological scholarship is the technological bias of a medium carries greater importance than the particular message it is delivering…. They [media ecologists] saw changes in the dominant medium of communication as the main determinant of major changes in society, culture, and the individual. Perceiving the biases of media technologies as the primary force for social and cultural change, resembles the hard technological determinism of the embodied theory of technological bias. (Zimmer 173)

This viewpoint is a popular response to media ecology, one that attempts to critique media ecology as a one-dimensional field of study only interested technology as the driver for change. However, such a critique is a very superficial read of the scholarship in the field. In the spirit of media ecology, the responses to these claims are found in rhetoric, the underlying tradition that guides the study. Ong's writings on rhetoric are extensive, rich, and multifaceted, as are many of the media ecology scholars: McLuhan, Havelock, Ellul, and Postman to name a few.

Rhetoric's discursive nature implies a human element that can keep one grounded in an environment that is mediated by mechanistic devices (Silverstone, 1991). Historically, rhetoric has directed social interaction in that discourse is a prerequisite for rhetoric. We normally use language to coordinate social interaction, but now we have added machines into that "conversation. " With the widespread use of complex technologies to communicate, we allow ourselves to be divorced from our human-ness and encouraged to engage in what Hannah Arendt calls "unreflective action" (Arendt 65. In other words, we become used to being spectators rather than participants. Becoming used to something makes it even harder to change once the monotony of a particular habit becomes commonplace.

Technology is a reaction to our need as humans to expand our power and control over our circumstances. This includes nature, time, distance, and other human beings. Nicolas Carr, in his book *The Shallows: What the Internet is Doing to Our Brains*, classifies technologies into four sets of categories according to the way they supplement or intensify our native abilities. The first extends our physical strength, dexterity, and toughness, and includes the plow, and the fighter jet. The second set extends the range or sensitivity of our senses, and includes the microscope, the amplifier, and the Geiger counter. The third allows us to modify nature to serve our needs more efficiently, such as genetically modified organisms. The fourth and final set are what Carr and social anthropologist Jack Goody calls "intellectual technologies," such as the clock or the map (Carr 81). Inventions in each of these categories influenced the way we think, but the "intellectual

technologies" in the fourth category of that have had the most profound impact and lasting power on how we think and function.

Carr mentions that the ethic of a technology is rarely acknowledged by it inventors (and users) since usually they are focused on solving a particular problem. However, the neglected broader implications of these developments often times have the most profound effect on us, the users. Let us take the map for example. The need for a map hundreds of years ago and even as recently as the 20th century was integral in order to navigate.

Physical maps evolved into digital maps, digital maps developed into navigation technology, and navigation technology are now present on every "Smartphone" in the world. One might think that the major contribution of these incremental changes is that we now can never get lost. However, Carr posits that the major shift here is not one that is fully understood and accepted: that we now *rely* on the map application on our phones to traverse the world. Again, our reliance is dangerous in that if and when that technology disappears, we will be unable to navigate on our own. Our minds no longer become acclimated with our surroundings since this technology does it for us. In a sense, we become slaves to the device itself in that we cannot live without it.

Individuals and communities can choose which tools they use and do not use, but we really have no control over the trail or tempo of technological progress. It is a myth to think that we choose to use social media or choose to use a map at some point in our lives. These decisions were made for us by those who possess the technical skill to "solve" problems of efficiency using technology. The irony here is

that technology has control over us in ways that if we were asked we would never want to give up.

The notion of losing control perfectly encapsulates much of the threat that technologies pose for us: thinking for ourselves and making decisions based on those thoughts is what dsitinguishes us as human. World-renowned political scientist and technological determinist Langdon Winner comments: "if the experience of modern society shows us anything, it is that technologies are not merely aids to human activity, but also powerful forces acting to reshape that activity and its meaning" (Langdon 105). Progress often has its own "logic," in that it is almost never congruent with the intentions or demands of the creators. Tools are often thought to do what we tell them; however, sometimes we adapt ourselves to fit the requirements set forth by the tools (Carr 71).

Banality

Banality is another metaphor that accurately portrays the post-electronic age, in that images, information, and media are essentially worthless. Hannah Arendt spends quite some time providing texture to the term banality in her book *Eichmann in Jerusalem: The Banality of Evil,* which reports on the trial of Adolf Eichmann who was a Nazi and organizer of the Holocaust. Arendt's book introduced the expression and concept "the banality of evil. " Her thesis is that Eichmann was not an extremist or a sociopath, but an exceptionally average person who relied on passé defenses rather than thinking for himself and was motivated by professional progress rather than ideology. Banality, in this sense, is not that Eichmann's actions were ordinary, or that there is a potential Eichmann in all of us, but that his actions

were motivated by a sort of stupidity which was completely unexceptional. She never denied that Eichmann was an anti-Semite, nor that he was fully responsible for his actions, but argued that these characteristics were secondary to his stupidity (Arendt 135). Arendt portrays banality as generally "unexceptional," and is motivated by "stupidity. " Banality in this sense sounds incredibly similar to the description of modern day technologies by media ecologists: it causes a kind of stupidity amongst users and nothing exceptional really occurs as a result of its use, just something to pass the time or distract us from other life activities or emotions.

It is the position of this dissertation, that the aforementioned banality is a result of the atrophying of skills and our memory caused by an overindulgence of technology. Arendt provides another central idea that pertains to banality as well as a specific cause of the issues mentioned. In her landmark text, *The Human Condition*, Arendt reveals her philosophy regarding "human activities. " Arendt introduces the term *vita activa* (active life) by distinguishing it from *vita contemplativa* (contemplative life), which represents her understanding of Western society. There are only three human activities: labor, work and action (Arendt 124). According to Arendt, labor, work, and action are defining characteristics that make us distinctly human. Again, there is an uncanny correlation to many of the issues that result from technology. As a matter of fact, the three human activities that Arendt identifies have atrophied, to varying degrees, in a post-electronic culture. Arendt describes "action" as specifically political and can only take place in the public realm, that of creating something lasting within the world. It requires speech (*logos*), since the actor needs to declare his or her existence in order for that action

to be considered "human" (Arendt 125). Specifically, the activity of action has lost much of its significance today. Technology has permitted us to be much more passive and lazy, because technologies now perform many of the human functions for us: communicating, learning, talking, writing, walking, breathing, and even as far as thinking etc. Again, this relates back to a very fundamental issue with innovation and technology: we never stop to think if we should, we only progress because we can. The unintended consequences are often ignored or not fully acknowledged for the sake of progress.

Our Minds Under the Influence: The Danger of Forgetting

The post-electronic age, therefore, is the result of incremental changes over many years, which evolved into a state of mind that embraces technological advancements and neglects the negative side effects that accompany them. Progress for the sake of progress can be a dangerous mindset when the stakes are so high. What is actually at stake with the atrophying of our memory and a total embrace of technology? So what if it does atrophy, we have the technology needed to remember, right? The goal of this dissertation is to highlight memory as being the major causality in the technopoly that we live in today.

As explained in chapter 1, memory has a long history and has been affected tremendously by the changes in how we communicate: from the oral tradition to the written word, from the written word to literacy, from the printing press to electronics, and from electronics to constant connectivity through social media and the Internet today. Each shift signifies a substantial alteration in the need (or lack thereof) to employ our memory the way we once did. In other words, we are

referring to the danger of forgetting. Memory is human and to not fully develop and use our memory is a risk that has enormous consequences that we are now seeing in a post-electronic age.

During the middle ages, we began to see a distinction between two types of memory: "natural" memory and "artificial" memory. Natural memory refers to the kind of memory we are born with and do not need to train. Artificial memory is the kind of memory we can develop over time through practice. Interestingly enough, teachers felt there were places (*loci*) that were conducive to developing memory. Students were advised to find a quiet place so surrounding noises and other people would not weaken their memory. Boorstin notes: "In those days [Middle Ages] one could see some students of rhetoric walking tensely through a deserted building, noting the shape and furnishing of each room to equip his imagination" (Boorstin 107).

There seems to be a departure of the need to develop memory in large part because the level of disruption is at an all-time high. A post-electronic age provides a deluge of more complex distractions than just noise or other people: the Internet, social media, television, music, and other newer forms of media provide a constant distraction from what is physically right in front of us. Therefore, the amount of practice it takes to resist the constant influx of information, text messages, and other digital new media is exponentially more than in previous cultures. Emphasizing "practice" also reveals the continuous need to exercise ones memory in order to develop it the way the art of memory demands.

However, the importance of memory began to dissipate after the common use of paper and printed books. In regards to the diminishing importance of memory, Montaigne, one of the most significant philosophers of the French Renaissance, declared, "a good memory is generally joined to a weak judgment" (Boorstin 111). In the centuries after printing, there was a stark shift from technology of memory to its "pathology. " Interest in scientifically based concepts like aphasia, amnesia, hysteria, hypnosis, and psychoanalysis were growing fields as technology began to permeate at a rapid pace. The arts of learning had replaced the arts of memory (Boorstin 112). Ong would view this as a move farther towards the quantification of thought, where there is an emphasis on science based methodologies to understand various phenomena.

Therefore, we see a renewed interest in the arts of forgetting. Simonides of Ceos was the inventor of the method of *loci* where large amounts of data can be remembered in order by placing images that represent the data into mental locations or journeys. When Simonides offered to teach Themistocles, an Athenian statesman, the art of memory, Cicero stated that he refused. Themistocles responded by saying "Teach me not the art of remembering, but the art of forgetting, for I remember things I do not wish to remember, but I cannot forget things I wish to forget" (Boorstin 112). Additionally, modern psychology adopted the study of forgetting where psychologists critically examined mental processes through experimentation and measurement.

Psychologists became more and more interested in forgetting as a process of everyday life, arguing that forgetting was just as important a mental function as

remembering (Boorstin 114). In the 19th century, however, the study of memory transformed again with a focus on latent memory and the unconscious with Freud and Neoplatonists. There was a revival of Platonic ideas that gave new life to the conception of memory through his theory of forms. New age mystics were no longer slaves to oratory, which made memory an arcane art that opened access to a dichotomy of memory as a science and memory as an art, a noteworthy shift that led to examining memory in two opposing ways.

In the methodology of Ong, identifying and understanding the significance of communicative shifts is important because it is reflective of a multiplicity of issues that characterize a time period. Starting in modernity and extending to today, memory became a "forgotten" art and was replaced by metaphors like efficiency and a rapidly growing field of science based thinking. Each one of these characteristics is an important metaphor for describing the post-electronic age of today, and is perpetuated through many of the technological developments that have been made.

The metaphor of the mind being "under the influence" is an important one, in that it demonstrates how one acts when submerged in a technopoly. When an individual is under the influence of a substance such as alcohol, they do not act like themselves, they are erratic, and often times they are out of control. The alcohol takes over their ability to make rational and well-informed decisions. Similar effects occur when one is under the influence of technology: they become distracted, they lose focus, and they are not capable of distancing themselves from the technology to understand the full extent of the problem. Of course, there are very different macro level problems that arise from each (with alcohol there are effects on the liver,

kidneys, and other acute medical ailments), but technological "addictions" cause long term issues that are hard to see until the damage has been done.

It has been established that technology today has permitted us to rely less on things that we once relied heavily on in the past, such as memory. Information is stored on the Internet or the cloud, and we depend on these mechanisms to remember for us. We cannot live without them, in similar ways that an alcoholic cannot live without alcohol. Therefore, being under the influence is a dangerous problem at it pertains to technology because it distracts us, it controls us, and it makes us numb to various human qualities. McLuhan articulates this concept of numbness in Understanding Media:

> The Greek myth of Narcissus is directly concerned with a fact of human experience, as the word Narcissus indicates. It is from the Greek word narcosis or numbness. The youth Narcissus mistook his own reflection in the water for another person. This extension of himself by mirror numbed his perceptions until he became the servomechanism of his own extended or repeated image. The nymph Echo tried to win his love with fragments of his own speech, but in vain. He was numb. He had adapted to his extension of himself and had become a closed system.
>
> Now the point of this myth is the fact that men at once become fascinated by any extension of themselves in any material other than themselves…. (McLuhan 41).

Information is the primary agent of intoxication in a post-electronic age. Postman articulates that we have become "information gluts," or a culture consuming itself with information. The setting in which a Technopoly thrives is one in which the link between information and human purpose has been severed. For example, information appears randomly, directed at no one in particular, in massive volume, at high speeds, and separated from theory, meaning, or purpose (Postman 37). It is very hard to create substantial knowledge from information that lacks theory, meaning, or purpose. As a matter of fact, information that is not guided by purpose or meaning can be dangerous.

With the ever-increasing amount of information available Postman argues that: "Information has become a form of garbage, not only incapable of answering the most fundamental human questions but barely useful in providing coherent direction to the solution of even mundane problems" (Postman 69). The garbage that Postman speaks of clouds our minds with meaningless information, making us incapable of rationalizing well thought out decisions. Postman is describing a situation where information for the sake of information (similar to progress for the sake of progress) is a driving force in keeping the attention spans of people. We truly believe that information is our friend and that constantly stay "informed" at all times is not negative. We are terrified of feeling left out, and often times think that being "informed" through a constant influx of information will keep us part of cultural happenings.

Similarly, in Kenneth Burke's 1931 book *Counter-Statement*, he views literature as not only an end in itself, but as a piece of rhetoric and of self-revelation

about the author. In it, he discusses the concept of the psychology of information. He affirms that information does not require repetition similar to "form," rather the psychology of information requires continuous originality and novelty (Burke 104). Therefore, it troubles media ecologists today who view a world that is bombarded with the same information, news, and communication, where originality is far and few between.

Forgetting is a detrimental byproduct of a post-electronic culture that needs some unpacking in order to move forward. One can view technologies like Wikipedia, Google, iCalendars, digital recorders, and others that act as some sort of "remembering" tool, as a positive development. Of course, it can preserve information and events exactly how they occurred. We no longer have to provide first person accounts of presidential speeches or rely on our memory to work for us. The world often focuses solely on the fact that these technologies are positive contributions to our society. Looking at it from the other side, we now rely on technology to think for us. Memory is not a mechanical function (how databases and computers store and send out information when we please) it is a human function that distinguishes us from other animal forms. *Therefore, the danger in forgetting is essentially a danger in becoming less human*.

Arendt discusses and offers some insightful support around the idea of forgetting. In Stephen Kampowski's *Arendt, Augustine, and the New Beginning*, he makes some strong connections between remembering, temporality, and the human condition that help link remembering to humanness:

> The sense of remembrance that Arendt presents in *Der Liebesbegriff* is that of remembering the contingency of one's existence, the source of one's being in Another. It is a remembrance in the sense of the medieval exhortation "remember death"—or, we might also say, "remember birth. " It means to open one's eyes to the reality of things and humbly acknowledge and gratefully accept the fact that one is a created and contingent being. (Kampowski 46)

When we use technology to replace that what is innate to being a person, we no longer "acknowledge" our own being and begin to lose ourselves. This occurs in more ways than just memory, but a post-electronic age threatens these distinctively human characteristics by tempting us to indulge in these shortcuts. Unlike technology, there are no shortcuts to being human. For example it takes years to learn a language, learn to walk, and learn how to think. In order to develop these human traits to the utmost degree, large amounts of time must be devoted to the task. It takes effort to grow many of these attributes, and memory is no different. If we view memory in a use it or lose capacity, if we fail to use it, memory atrophies. Therefore to use memory means to develop it. The art of memory is developing it to its greatest extent. Developing memory to the fullest extent is the only way to combat forgetting, and essentially combat the urge to give up parts of our humanity.

Chapter 4: Reorganization and Reclamation of Memory

Chapter 1 unpacks orality and literacy studies, chapter 2 identifies how changes in the way we communicate change the way we think and acquire knowledge, and chapter 3 evaluates and characterizes the current technological environment and its effects on our consciousness. The previous chapters adequately prepare us for the final chapter, *Reorganization and Reclamation of Our Memory*. This chapter will extend and expand Ong's conceptions into the 21st century. Here, we will describe how modern technologies have the capability to reorganize our memories, similar to how writing restructured them. Many of the assertions Ong makes in his works are applicable in the post-electronic age we are currently navigating through, and are essential to maintain the balance between technology and human-ness.

It is in this chapter that *the dissertation develops and expands Ong's analysis of orality and literacy studies into the 21st century. The history of orality and literacy studies provides much needed perspective in the ongoing struggle between technological progress and human communication*. I have chosen three rhetorically based conceptions that are posited by Ong that aid in the reclamation process: (1) apprenticeship, (2) participation, and (3) *memoria*. In doing so, we will have a more comprehensive understanding of how to adapt to the constant flux between oral, visual, literate, electronic, and post-electronic spaces that directly influence how we make sense of the world.

Ong to the Rescue

The previous chapter detailed what our minds look like while under the influence of technology and the lack of control we tend to have as a result. Many media ecologists are accused of not providing solutions to many of the issues that are raised in regards to technological overindulgence and what happens to us as a result. In the spirit of Ong and his form of rhetoric being living and breathing, this final chapter offers a few solutions, or to go along with the metaphor of being "under the influence," a detoxification that will help resist the temptations that technology offers. In a 1996 interview, Postman emphasized a solution in a technopoly, which was to give students an education in the history, social effects and psychological biases of technology, so they may become adults who "use technology rather than being used by it" (Postman, 1996). Other media ecologists like McCluhan and Ellul also stress the importance of education in order to combat the technological society today. Similarly, Ong regularly refers to rhetorically based ideas that help keep us grounded in humanity, particularly in his discussions on oral cultures.

Ong ponders an oral culture where there was nowhere to "look" for meanings of words or phrases, where people had to recall history, tradition, events, and information by using and developing their memory. Again, he does not set orality *against* literacy, rather he illuminates some key differences that make it conducive for memory to flourish. First, orality is aggregative rather than analytic. Ong comments: "The elements of orally based thought and expression tend to be not so much simple integers as clusters of integers, such as parallel terms or phrases or

clauses, antithetical terms or phrases or clauses, epithets. Oral folk prefer, especially in formal discourse, not the soldier, but the brave soldier; not the princess, but the beautiful princess; not the oak, but the sturdy oak. Oral expression thus carries a load of epithets and other formulary baggage which high literacy rejects as cumbersome and tiresomely redundant because of its aggregative weight" (Ong 188).

In typical Ong fashion, he is careful in the way he describes both oral and literate cultures to give justice to each point of view. However he does insinuate that oral expression has charm given its aggregative nature and potential to provide vivid description since orality is based primarily on narrative. Spoken narrative allows for a kind of storytelling that is also advantageous in recollection of information. Therefore orality allows one to develop thinking skills through natural processes that are hindered by a quantified way of thought such as writing. Writing restructured the way that we process information, which ultimately created a path for a post-electronic culture to flourish. What can we learn from orality in a culture that places primacy on analytical ways of thinking? Oral based communication cannot be deduced to simple integers. It relies on memory and one's ability to recall information in ways that allow for meaningful human communication. In this sense, oral communication is one method that helps develop our memory in ways that are antithetical to modern communication in a post-electronic age.

Of course it would be unrealistic to think that we can completely circumvent technology and the consequences that ensue, however Ong's perspective teaches us that preserving of memory through making an effort to engage in human

communication is imperative for survival. Sherry Turkle stated in a recent interview that no matter how intelligent, adaptive, and rational machines will become, they could never mimic the sounds, smells, sights, and passions of humans (Turkle, 2014). Computers cannot deal with the unique or exceptional. Her thoughts are akin to Ong's claim of oral cultures being aggregative rather than analytic. "Analytic" implies a breaking down into smaller parts whereas aggregative refers to a gathering or accumulation of sorts. Orality promotes the accumulation of knowledge (aggregative) by developing it through human communication. Therefore, accumulation of knowledge can be achieved through consistent human communication and placing less emphasis on communicating through electronic devices. This is one way that Ong provides a way to avoid the bombardment of a technologically mediated world.

Ong discusses some of the psychological characteristics that accompany an oral culture and a literate culture:

> It is possible to generalize somewhat about the psychodynamics of primary oral cultures, that is, of oral cultures untouched by writing. … Fully literate persons can only with great difficulty imagine what a primary oral culture is like, that is, a culture with no knowledge whatsoever of writing or even of the possibility of writing. Try to imagine a culture where no one has ever 'looked up' anything. In a primary oral culture, the expression 'to look up something' is an empty phrase: it would have no conceivable meaning. Without writing, words as such have no visual presence, even when the objects

> they represent are visual. They are sounds. You might 'call' them back—'recall' them. But there is nowhere to 'look' for them (Ong 31).

It is very hard for those that have been surrounded by other literate people and participate in a literate culture to even comprehend what a society looks like that is untouched by writing. Today, there is writing on billboards, in books, on television, on the Internet, through apps on our phones, in magazines, on busses, on airplanes, etc. Words are virtually everywhere and the thought of relying on a culture to explain everything through storytelling or through tradition seems quite foreign to us today. Thought is a process that requires continuity, in that it builds upon prior knowledge that is gained from previous experiences. According to Ong writing creates continuity outside of the mind, which means that if information is not retained when read the first time, it can be retrieved by simply skimming over the text selectively (Ong, 39). The process of "glancing over" amidst a sea of distractions disrupts the continuity of the thought that can be detrimental to the development of memory, amongst other cognitive attributes. Keep in mind, Ong is observing this phenomenon during a time when technology was still in its infancy and widespread technological use was still not prevalent. So what can we learn from Ong in the situation? He is placing an emphasis on continuity of thought that can be guaranteed through qualities that are fostered in an oral culture such as face-to-face communication, human communication, apprenticeship, tradition, etc.

One of the most important characteristics of an oral culture that helps resist the technological fever that has taken over the world today is Ong's idea of homeostasis. This refers to oral societies living in the present, which "keeps itself in

equilibrium or homeostasis by sloughing off memories which no longer have present relevance" (Ong 46). Thought and expression in primary oral cultures is homestatic and empathetic and participatory rather than objectively distanced. The narrator, audience and character are so intertwined that "the narrator typically identifies with the character he treats and interacts freely with his real audience, who by their responses in turn help determine what he says – the length and style of his narrative" (Ong 161). Also, the discourse of primary orality "fosters personality structures that in certain ways are more communal and externalized, and less introspective than those common among literates. Oral communication unites people in groups (Ong 69). Oral cultures are careful about innovation because something gained always entails something being lost Technology often times forces us to think outside of the present moment: television commercials prompt us to take action outside of the moment, social media focuses on what others are doing, and cell phones can be used to make plans ahead of time.

McLuhan will also be a helpful mind in the reclamation of our memory through his tetrad of media effects. Generally speaking, a tetrad is any set of four things. In McLuhan's Laws of Media (1988) and The Global Village (1989), he summarized his ideas about media in a concise tetrad of media effects. The tetrad is a means of examining the effects on society of any technology/medium (put another way: a means of explaining the social processes underlying the adoption of a technology/medium) by dividing its effects into four categories and displaying them simultaneously. McLuhan designed the tetrad as a pedagogical tool, phrasing his laws as questions with which to consider any medium: enhancement, obsolescence,

retrieval, and reversal (McLuhan 24). The laws of the tetrad exist simultaneously, not successively or chronologically, and allow the questioner to explore the "grammar and syntax" of the "language" of media. McLuhan departs from the media theory of Harold Innis in suggesting that a medium "overheats", or reverses into an opposing form, when taken to its extreme. In the true media ecology and Ongian tradition, there is a silver lining using McLuhan's tetrad, and that is a regaining or reclamation.

As noted in chapter 3, we are distracted from the present moment and are unable to fully experience the now which affects the way we perceive the world. When a concertgoer takes out his or her phone to record the act, they are missing out on the smells around them, the people in front of them, the idiosyncrasy of the performance, and other atmospheric elements. Again, it distracts us from the present moment, which is integral in an oral culture.

Apprenticeship, Participation, and *Memoria*

Ong was a perceptive polymath. For an academic, this is often the highest praise one can receive by their peers given the multidisciplinary nature of topics like rhetoric and media ecology. Within Ong's methodology (particularly as it pertains to orality and literacy), we find a constructive, synthetic approach rather than an analytical one. He brings an assortment of topics and disciplines together to provide a comprehensive perspective rather than a limited one. In doing so, Ong presents readers with a map of possible solutions or ways to combat the queries he seeks to understand with depth.

In the case of communicative shifts between various cultures (such as the shift from oral to literate cultures), he does the same. Ong's rhetorical perspective is one that emphasizes human communication over any other form. To reiterate, he is not claiming that orality is somehow superior to literacy, but he does address the decline of orality and what is lost as a result. If we survey Ong's corpus of work, it will reveal a series of rhetorically based ideas that reoccur: apprenticeship, participation, and *memoria*. To properly extend Ong's work into today's post-electronic culture, we must address them comprehensively and understand the "costs" involved in replacing human communication with electronic communication. By re-emphasizing and re-introducing apprenticeship, participation, and *memoria* the way that Ong does, we have a way to contest the harms that accompany a post-electronic mindset, particularly a way to reclaim the importance of memory in a culture that suppresses it.

Apprenticeship

In Richard Sennett's *The Craftsmen*, he is interested in uncovering the spirit of craftsmanship, which is "an enduring, basic human impulse, the desire to do a job well for its own sake" (Sennett 14). He argues this sentiment is tragically lost in our current industrial, globalized world where expediency is the ruling paradigm among past crafts. Craftsmanship, by combining skill, commitment and judgment, establishes a close relationship between head and hand, man and machine, that Sennett asserts is vital to physical, mental and societal well-being. In the book he identifies an important ideal of the best craftsmen: continuing involvement. It can

take many years of practice for complex skills of making to become so deeply engrained that they are there, readily available, almost without the craftsmen being conscious of it. An obvious example is the glassblower, dependent on tried and trusted ways of using tools, organizing body movements, understanding his idiosyncratic raw materials with a depth of involvement so complete the process of making becomes almost automatic. The same total mastery of technique can apply to music making, ballet dancing, or even writing. But our lives are so fragmented that it is becoming rare. It is through learning, repeating, and mastering that one can attain the level of craftsmanship that lacks today. It is this process that lacks today and needs to be restored to ensure the reclamation of memory in the traditional sense.

Ong shows us that oral cultures possess qualities that are integral to the development of thought and ultimately memory. Written texts, albeit directly or indirectly, must be somehow related to the world of sound, which is the "natural habitat" of language. When we read a text, we are converting it to either a physical sound or an imaginative sound (meaning we "think" using words). Writing can never replace orality. However, the scientific and literary study of language and literature has pushed the focus away from orality and towards newer forms of communication (Ong 83). The shift in focus away from "old" forms of communication gets to the heart of media ecology: rather than focusing on progress for the sake of progress, we need to stop and understand the consequences of what is lost when a new communication medium is introduced to the world. With great detail, Ong addresses this issue head on.

Throughout Ong's work, we see him tending to the idea of "apprenticeship" time and time again. Human beings that exist in oral cultures, meaning those who have been untouched by writing of any kind, are still capable of possessing great wisdom. Over time, there has been a negative stigma attached by literates on those who lack the ability to read and write. "Illiterates" are viewed as incapable of possessing or developing profound knowledge, intelligence, or the ability to develop their memories in ways that literates can. There is a difference between being stupid and being ignorant, though we often confuse the difference when we discuss the term "illiterate" today: intelligence is not obtained, but learning is. However, Ong and others contend that illiterate's lack of knowledge is simply not true. Oral cultures can learn and develop their intellectual abilities through apprenticeship or discipleship (which he states is a type of apprenticeship) through repetition. The apprentice learns by "listening, by repeating what is heard, by mastering proverbs and ways of combining and recombining them, by assimilating other formulary materials, by participating in a kind of corporate retrospection" (Ong 8). The idea of learning from those who have experience or an expertise in a given area (hunting, singing, farming, etc.) is how oral cultures learn, not by studying in the strict sense. There is a sense of irony in the apprenticeship model, and that is that we employ it in literate cultures as well. For example, if someone wanted to learn how to hunt in an oral culture, they would accompany an experienced hunter. In a literate culture, if someone wanted to become a successful surgeon, they would shadow an experienced surgeon (of course along with taking classes). Carpentry and other trades also use the apprenticeship model, as do doctoral programs. These examples

encapsulate a hybrid of literacy and orality, though orality remains as the primary method of communication. Apprenticeship isn't a new method of learning; it is used in conjunction with other forms of traditional academic techniques. It is through observation and practice with minimal verbalized explanation that those in an oral culture learn (and even in high technology cultures like our current one).

Ong's notion of apprenticeship can be extended into today's technologically driven culture to help solve the issue of an atrophying memory. Apprenticeship models are contingent on variety of things, most notably direct human interaction. This means that there is an absence of technology mediating our communication processes. The way this is done is through the concept of repetition. Ong discusses with detail the idea of "verbatim memorization" through repetition among oral cultures. Apprenticeship, Ong states, privileges learning by watching and listening, then repeating over and over again the action performed by the apprentice. Ong discusses examples of verbatim memorization through repetition ranging from Somali classical poetry to the Curia of Panama.

Oral transmission was also important to the history of the Vedas. Brahman teachers or gurus and their students devoted intensive effort towards verbatim memorization by using patterns to ensure repetition would be easier (Ong 64). Ong uses to the work of linguist Joel Sherzer (1981) in tracing various indigenous cultures' memorization skills. Sherzer spent some time in 1970 off the Panama coast studying the Curia. He had taped a long-lasting magic puberty rite formula that was taught by a man who was a girls' puberty rite specialist. He returned in 1979 with a transcript that he had made of the formula and discovered that the

same man could recite the transcription verbatim, word for word, phrase by phrase (Ong 65). This shows that through repetition that memory can be preserved with perfection. These societies can be indentified as a "verbomotor" cultures, that is cultures where attitudes and beliefs towards issues are contingent on effective use of words, thus placing a larger emphasis on human interaction rather than high-technology. The term is derived from Jousse (1925), who coined *verbomoteur*, which refers to Ancient Hebrew and Aramaic cultures which knew some writing but maintained a word-oriented way of life (Ong 66). These cultures also employed an apprenticeship model as well as learned through memorization. This kept their minds sharp and able to engage solely in human communication without any interference. Therefore, apprenticeship learning is conducive to keeping our memory intact without relying on outside mechanisms to do it for us. One becomes an apprentice through profound experience in a given subject matter, and a deep understanding of the idiosyncrasies that are present.

Participation

Another theme that underpins Ong's work, as well as media ecology at large, is the concept of "participation. " Participation poses a formidable threat to the post-electronic world (specifically the atrophying of memory) in that participation requires society to engage with one another rather than engage through technological devices. Ong contemplates that people today would likely consider themselves significantly removed from the possibility of experiencing a deep level of participation with the world (Farrell and Soukup 15). This lack of participation with the world is due to the fact that we filter our experiences by allowing ourselves to be

mediated through communicative agents that are external to us. Apprenticeship presupposes participation, and human communication requires participation, therefore placing a large amount of importance on people. People are the glue that holds together cultures, societies, communities, tribes, and essentially, the world. Replacing participation with technologically mediated versions of participation is acknowledging that humans are replaceable. However, Ong uses rhetoric to ensure people and participation is at the forefront of the communication process, and indeed not replaceable.

It is hard to blame people for their lack of participation in the world, because we have been strongly conditioned by the heightened visualism of print culture, the result of which has been distance from the participatory sense of life that was once experienced in the past (Farrell and Soukop 15). Participation, from an oral culture perspective, entails existing in the world with other people, learning from those experiences, learning from others, and engaging with the world. Furthermore, our distance from the world is exacerbated in a culture that pushes us even farther away by isolating us in front of a technological device that communicates, talks, and acts for us.

Ong finds particular interest in our objective distance from the world, and feels that the way to deal with this distance is through empathy and participation. He refers once again to oral cultures for a way to find a solid ground: "for an oral culture learning or knowing means achieving close, empathetic, communal identification with the known…Writing separates the knower from the known and this sets up conditions for objectivity, in the sense of personal disengagement or

distancing" (Ong 45). Communal learning through participation requires one to actually partake in the world. In oral cultures, one obtains knowledge by being an active member and contributor to their community. This sense of community learning is what we lack in a post-electronic culture, because we are accustomed to technologies doing the work for us. Breaking this vicious cycle of indolence is the only way to restore "movement" back into our atrophying memory. Again, if we view memory in a "use it or lose it" capacity, the only way to preserve it is through active participation in the world, which will force us to test ourselves through decision-making, critically thinking in difficult circumstances, and tackling other challenging tasks that will expand our knowledge base by gaining life experience. Ong also points out that participation is inextricably tied to the concept of participation. As stated in the previous section, oral culture's learned through doing in an active sense. Oral cultures learned through hearing stories past down, through repeating song and epic poetry, through physically doing work and having someone who has extensive experience in a subject area explain the idiosyncrasies that exists within a particular topic. Discipleship works by listening, by repeating what is heard, by mastering what others do. In other words, by participating in a kind of "corporate retrospection," as Ong says, not by studying in the strict sense of the word (Ong 8).

Participation in the world means connecting with other humans, conversing about topics, learning from others, experiencing love, loss, happiness, and other features that make us innately human. All of these experiences help build a knowledge base about the world and about people, as well as force us to rely on

ourselves. Of course, one of the attributes that get expanded in a participatory-based culture is memory. Participation, in the human sense, is purely rhetorical and a concept that Ong believed to be important in our development.

Memoria

Apprenticeship and participation are both action-oriented and can aid survival in a post-electronic world. The end result (of the apprenticeship model and participating in the world) is the re-development and preservation of the traditional notion of *memoria*. To review, *memoria* refers to the art of memory, in which the goal is to develop our memory to the fullest extent through constantly working it (by the aforementioned apprenticeship and participation in the world). *Therefore, to restore and preserve the art of memory means to constantly use it*. Of course, in a post-electronic world this becomes incredibly hard, as we are tempted to rely less on it. However, Ong points us yet again to the oral cultures of our past for direction. He is aware that we need and therefore cannot neglect literacy and the various forms in which it comes. "Oral cultures indeed produce powerful and beautiful verbal performances of high artistic and human worth, which are no longer even possible once writing has taken possession of the psyche. Nevertheless, without writing, human consciousness cannot achieve its fuller potentials, cannot produce other beautiful and powerful creations. In this sense, orality needs to produce and is destined to produce writing. " (Ong 14). Literacy needs orality and vice versa. The problem that has arisen out of the world functioning primarily through literacy is the loss of orality, and all of the residual side effects that accompany it. In practice, education would mirror an apprenticeship model where there is a balance

between the "doing" and "learning." Those that exist in primarily oral cultures are aware of the vast world of literacy and want to achieve literacy, but know very well that moving towards that world means leaving behind much that is exciting and loved in their oral worlds (Ong, 1982). Ong so honestly states, "we have to die to continue living" (Ong 15).

Perhaps we only have to "partially" die in order to continue. Maybe there is some sort of middle ground that exists for humans to coexist, so to speak, in a post-electronic culture. For example, Ong himself acknowledges that literacy can indeed destroy the memory of those who transition into a literate culture, by not having to use memory in the same way. Conversely, literacy can also be used to reconstruct thought (though not to perfection) to bring a better understanding of man's consciousness (Ong, 17). It is this kind of give and take relationship that becomes important today. This mutual relationship goes back to Ong's central premise: it is not orality *versus* literacy, rather the two functioning side-by-side. We cannot allow ourselves to be inundated by the technological literacy that consumes our culture today, but seek to understand it with caution. We also cannot abandon the communicative processes that have made us distinctly human, but embrace them to ensure our memory and other human qualities remain intact and developed to its highest levels. All technology is simply part of the history and evolution of man's spirit. Ong shows, after Havelock, how Plato's strictures on writing in the Phaedrus and the Seventh Letter drew attention to the relative advantages of oral communication over writing using the same arguments as are now sometimes used against computers (dehumanization of the living world, destruction of memory,

weakening of the mind). Ong notes that modern technological society is no more depersonalized than earlier society, and indeed that personalist philosophy is a product of our society alone (Ong, 200).

The neglect of memory today means even more effort needs to be given to the development of it. An integral component of oral cultures that aided in the growth of memory was oral memorization. Oral memorization worked quite differently in oral cultures than in literate ones. In literate cultures, verbatim memorization is commonly achieved through studying a text in depth. In the past, literates assumed that oral memorization in oral cultures had the same end goal of verbatim memorization. However, oral cultures would simultaneously recite passages with two or more people as groups. This is substantiated through Milman Parry's work with the Homeric poetry. Parry demonstrated that the *Iliad* and the *Odyssey* were oral creations. At first glance, this finding might seem to support verbatim memorization since two texts were strictly metrical. However, Parry showed that the hexameters (a line of verse consisting of six metrical feet) used in Homeric poetry consisted of "word-units" as well as formulas. The formulas had groups of words for dealing with traditional materials. (Ong 19). Parry's landmark work showed that metrically tailored formulas controlled the composition of the ancient Greek epic, and the formulas used were interchangeable without interfering with the plot or tonality. In other words, oral memorization tested a different part of our brains through oral memorization rather than verbatim memorization by employing meter (as Ong discussed at length in his Masters thesis on Gerard Manley

Hopkins and sprung rhythm), mnemonic devices, syntax, and music. Language and thought grew out of this use of memory, which eventually developed into literacy.

Conclusion: Ong, A Post-Electronic World, and Memory

A balance of orality and literacy is the greatest lesson that Ong can provide to the survivors in a post-electronic world. The atrophying of our memory is essentially the loss of human elements such as participation, apprenticeship, and other acts that place the machine ahead of the human. We cannot forget the importance of balance in a world like today. Balance is an even distribution, a condition in which different elements are equal in proportions, producing stability. The reason balance is so important today is because the scale is weighted too far in the direction of technology and is profoundly hurting our sense of being human. It has been shown that memory preserved oral cultures, however we must reverse that phrase in order to preserve memory: oral cultures preserved the art of memory (Ong, 1982). The practices of oral cultures were conducive to safeguarding the one art that makes us distinctly human.

A world without memory is a world without language, human communication, tradition, and emotion, and oral cultures fostered these attributes. Walter Ong provides us with a way to survive given the unique challenge that one faces today. The post-electronic world allows for instantaneous information to be accessed at virtually any time. In a recent interview by Turkle, she identifies a study that details what our brains look like while using search engines versus reading text. It measured patterns of cerebral activation during Internet searching and concluded that that our brain is learning to disregard information found and retrieved online, and this connection becomes stronger every time we experience it (Small, Moody,

Siddarth, Bookheimer 116). So the more we use search engines like Google to receive information, the less likely we are to retain what we see. Our brains use information stored in the long-term memory to facilitate critical thinking (Carr 171). We need these unique memories to understand and interact with the world around us. If we rely on digital means to store our knowledge, we are losing important parts of our human identity, one of which is the development of our memory.

If we neglect the work and ideas of Ong, Innis, Havelock and others, we run the risk of making bad judgments and misunderstand the mediated world. For example, the media that Innis is describing throughout his corpus may be dated in terms of time, but the implications and consequences of those medias are more relevant now than they have ever been. His concepts of space and time biases exist in any new media that is introduced to culture. In order to understand any medium, we must attend not only to its physical characteristics, but also to the way in which it is employed and institutionalized. Innis sees a dialectical relationship between society and technology: they influence one another mutually. Given this premise, we must seek to understand medias and the potential effects they have on humans. Dependence, divisiveness, and numbness are some of the effects that technology can have on human-ness.

Innis provides a perspective that allows us to think critically and consistently about the ways that media can mold societies. Innis believed that to persist in time and to occupy space, empires needed to strike a balance between time-biased and space-biased media. Such a balance is likely to be threatened however, when

monopolies of knowledge exist favoring some media over another. These concepts have implications that go beyond the text itself and into the digital age. In Douglas Rushkoff's book, *Program or Be Programmed*, references Innis' bias concept as it pertains to the Internet. He mentions that digital technologies are biased away from time and toward synchronicity (Rushkoff 30). Innis has long-term application to how we will navigate through the digital world. The digital universe is intensely space biased. It gives the impression of decentralization, but in fact it is deeply centralized and deeply committed to controlling us, distracting us, and managing our discursive behaviors. This is incredibly problematic to the human condition, which is characterized by language and discourse. Without Innis' contribution, we fail to understand the centralization of the Internet, and the ultimate effects of digital technologies. The introduction of a new technology runs the risk of monopolizing knowledge.

In the first chapter of *Technopoly*, Neil Postman narrates the story from Plato's *Phaedrus* of King Thamus. Postman talks about normal people today: "[People] who are inclined to be tools of our tools, few legends are more instructive than his" (Postman 3). The abovementioned legend speaks of Thamus' evaluation and judgment of the god Theuth, and his numerous inventions that included numbers, calculation, geometry, and writing. It is on the technology of writing that Postman picks up the story. The inventor Theuth introduces writing as a tool that would advance both "wisdom and knowledge. " As the legend goes, Thamus disagreed stating, "those who acquire [writing] will cease to exercise their memory and become forgetful; they will rely on writing to bring things to their remembrance

by external signs instead of by their own internal (Postman 4). Thamus is concerned about the damaging effects of writing to memory and the subsequent establishment of false wisdom among his subjects. For Thamus, this technology was nothing short of a burden to his society (Postman 7). Postman substantiates much of what Ong and this dissertation addresses. Various forms of technology have replaced human communication for many years, but again, the shift in today's world is intensified due to the widespread use of it, the complete lack of human involvement, and the short-term focus on information. Modern technological developments are forcing memory to be even more external than ever before. Additionally, as exemplified through the Thamus example, we are creating people that believe they are actually developing their intellect and gaining wisdom, when in reality they are not. As Postman puts, these technologies create a "false wisdom. "

Ong makes it clear that orality and literacy must be used in combination. Ong would say that this combination has to place rhetoric at the center of the process, and rhetoric "had to be a product of writing" (Ong 9). Ong discusses how in the beginning, "writing did not reduce orality but enhanced it, making it possible to organize the 'principles' or constituents of oratory into a scientific 'art', a sequentially ordered body of explanation that showed how and why oratory achieved and could be made to achieve its various specific effects" (Ong 9). Writing and orality could coexist and therefore so can teny technology and orality. It is unrealistic and counterproductive to think that orality will reign as the main means of permeating and creating knowledge amongst the masses. Acknowledgement of the dangers of both and a balance of both is the stance that Ong takes, but is also a

shared position among most media ecologists. Postman also feels that technology is both a blessing and a burden. The warning derived is that we often fail to consider how new technologies change our perceptions, interests, and communities in ways that we cannot always predict. For Postman, the nature of technological change is neither additive nor subtractive; rather it's ecological (Postman 18). Put differently, the introduction of a new technology into a society will introduce change to the workings of that society. Postman argues that it is therefore critical to understand what technology is designed to do: "When we admit a new technology to the culture, we must do so with eyes wide open" (Postman 7). Echoing much of what Ong and others mentioned in this dissertation have claimed, Postman articulates that education about the potential dangers of new technology allows us to regain some control.

Through Walter Ong, this dissertation has offered a constructive approach to navigating through the post-electronic world by highlighting key traits that allowed for oral cultures of the past and present to preserve human memory. For Ong and media ecologists alike, human meaning dwells in human communication and can only be preserved in today's world through rhetoric, which was exemplified through oral cultures. Given the complex nature of technology, the only way to provide recalcitrance is through rhetoric. Rhetoric is living, breathing, and natural to humans, allowing for a constructive balance between rhetoric and technology (to cohabitate, so to speak). The threat brought forth by technology is a threat where efficiency trumps the human process, meaning the impetus for creativity is based on expediency and how to make life "easier" for humans. Machines can now walk for

us, talk for us, open doors for us, and think for us. Without an infusion of human communication, we run the risk of completely losing our human identity and therefore relying solely on machines for our existence. However, pushing back against using machines does not mean to abstain from them, rather, in true Ongian fashion, to understand the potential effects of them and proceed with caution. A cautionary approach will force us to constantly question and think critically about what it is we are using and how we should properly use it. An infusion of human developed critical thinking ensures that our human side will supersede the mechanical side.

Our memory lies at the very core of our conscious experience, and aside from being physically different, the fact that we I each experience life as two distinct minds is about as fundamental a defining feature of individuality as one is likely to find. Further, as suggested throughout this dissertation, our current conscious experience is defined in large part by the totality of the things we have experienced throughout our lives, how we recall, analyze, and synthesize those experiences. Even taking into account things like genetic predisposition towards one way of thinking or another, the fact that two people will experience the same event differently (and thus employ the art of memory differently) only adds to the way in which memory defines an individual. These specific individual differences are particularly sensitive to being shaped by memory, as they develop in large part due to learning and experience, as opposed to things like executive function, which appears to be determined in large part by genetics and other neurological mechanisms. Therefore, the ability to fully develop our memory in the ways

discussed in this dissertation (in combination with our use of language) almost completely defines us, because it combines both our life experiences with our ability to grow ourselves naturally. Growth through life experience and the development of our memory epitomizes being human.

Not only does Ong's work "suggest that we pay more attention to words and their use" (Soukup 6), but also, because these distinctions imply that communication technologies shape thought processes, much media ecological work has focused on Ong's distinction between visual and aural thought, and how different ways of knowing relate to each other and other communicative practices. It is the position of this dissertation that the loss of the art memory is the most catastrophic sacrifice in a post-electronic age**,** and without the adoption of rhetorically based remedies like apprenticeship and participation there is no way to maintain the balance mentioned in the beginning of this section**.** Without developing our memory to the fullest extent**,** we fall farther into the ubiquitous technological society that has planted itself in the world today**.** Print and electronic cultures lose the action-orientedness of human and speech by detaching the written word from its author. These assumed connections, made by Ong in his seminal work, *Orality and Literacy: The Technologizing of the Word*, demonstrate the link between how humans think and communicate

The advanced literate culture that has come to define the post-electronic age is imperious, in that under a post-electronic culture, technology assumes power and authority without justification. People are helpless to the expansion of these monopolies of knowledge because they do not fully understand the profound impact

and control they are under. Therefore, control comes back to a very simple question: would we allow this kind of control if we were asked? It is safe to say that under most circumstances we would never allow for the kind of control articulated throughout this project, to be bestowed on us. Those few people who complexly understand the idiosyncrasies of modern technologies are the ones who benefit from technology, and ultimately have control over the rest. Jacques Ellul, who is often labeled a technological determinist by some, throughout his corpus, articulates the idea of control in terms technology exerting control over human destiny. The relationship between technology and people becomes one of an abusive relationship where we constantly rely on technology for survival, but it is always imposing its power over us without our consent. The abusive relationship between technology and people is one that has come to define the post-electronic culture and one that has only gotten more complicated as technology has become even more pervasive. Whereas traditionally communication required humans to be the mediators, now we have technological devices getting between us (physically and metaphorically). Media ecology, in part, is about creating awareness rather than offering ready-made solutions to remedy the intrusion of too much media in our industrial societies. Additionally, that the opposite of reality is not phony or superficial, it is optional. We choose between options to determine who we are, to make statements to the world about who we are. People, media ecologists argue, have always done so, but the difference with today's situation is that we have a lot more options. We have become method actors, constantly flattered. Deception is luring because it is the inherent condition of the "flattered-self". So we seek new

ways of satisfying ourselves. These are the true forces at work behind the "virtual revolution."

The end result, as Carr explains, is a hollowed out version of us. He explicates the 2 major problems we are enduring as a result of the progression of various technologies. He says there are generally 2 types of knowledge: deep domain expertise, and knowing where to find relevant information. While the Internet gives us access to all relevant information, it reduces our deep domain expertise, as we no longer need to store as much information in our brains. This deep domain expertise creates shallow shells of what we can be, but technologies inhibit us from being able to fully develop (Carr 34). Carr describes how new technologies force us to lose integral parts of ourselves. For example, clocks force us lose our natural rhythm, calculators sacrifice our simple critical thinking mechanisms, and maps make us lose our spacial recognition capacities. But the Internet, unlike most other technologies, is perhaps making us lose our touch with the real world. Our brains are now acclimated with constant connectivity and constant distraction in ways we are simply not used to dealing with. Additionally, we are bombarded with an overwhelmingly large amount of, often times, useless information that does not help develop our deep domain expertise as Carr elaborates.

As we become more and more shallow versions of ourselves, scholars like Ong remind us of the importance of being aware. Ong devoted his personal life and academic career to understanding the driving forces behind various cultures and what was lost as each time period ushered in new technologies to replace old traditions**.** He grounds his theory of communication in a rhetorical framework in

which the essence of human interaction is largely determined by historicity and the historical moment that makes it very hard to exists after the invention of writing. However, hidden throughout Ong's work are nuggets of wisdom that provide guidance on how to exists in a post-print and post-electronic culture by embracing and acknowledging the characteristics that make us human. These connections, made by Ong in his formative work, *Orality and Literacy: The Technologizing of the Word*, demonstrate the link between how humans think and communicate. As opposed to the revolutionary and reactionary nature of much media ecological scholarship, Ong provides an evolutionary view of the stages of human communication. Post-electronic culture effects how we think so dramatically that his insights have more relevance than ever. His findings were landmark**,** in that if we embrace a rhetorical perspective rooted in human communication we are able to maintain our human identity and preserve as well as develop our memory similar to those in oral cultures**.** Ong and others also recognized that the abolition of technologies like writing was not the answer**.** Progress for the sake of progress will take place regardless of the technological determinists out there**,** but if we are educated on the dangers and embrace human communication as our main method of exchange**,** then we can still thrive in a post-electronic culture**.**

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